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ABSTRACTS

FIBERS A

STATISTICS AND TIME DEPENDENCE OF MECHANICAL BREAKDOWN IN FIBERS. B. D. Coleman (Mellon Inst.). J. Appl. Phys. 29: 968-983 (June 1958). (2395)

A new phenomenological approach to quantitative discussions of the statistics and time dependence of mechanical breakdown is presented. The theory permits the prediction of relationships between the lifetime distributions to be observed for fibers under different loading histories: dead loads, loads proportional to time, and periodic loads. It also permits the calculation of relationships between the strength of separated individual filaments and the strength of bundles of filaments. This article consists of a formal, axiomatic development of the theory. Future publications will contain detailed comparisons of the various results with available experimental data. 20 references.

NATURAL FIBERS A 1

TEXTILE WORLD'S COTTON-FIBER TABLE: 1958 REVISION. W. G. Ashmore. Textile World 108: 47-66 (June 1958). (2396)

Only four of the varieties described in the 1953 cotton-fiber table are still of commercial importance. Seven new ones have been added and are described in the revised table. The purpose of the table is to give a quick picture of the leading cotton varieties. A range of values is given for each fiber property and manufacturing performance test for a given year. In addition, the properties of cotton used in 32 basic fabrics and yarns, cotton consumption figures, and changes in cotton varieties are analyzed. Reprints are available at 50¢ from Textile World, 330 West 42 St., New York 36, N.Y.

NOTE ON THE VARIATIONS OF DIAMETER AND BREAKING FORCE ALONG THE WOOL FIBER. J. Lecomte, G. Mazingue, and M. Van Overbeke. Bull. Inst. Textile France No. 69: 7-30 (Aug. 1957). In French. Through BCIRA 38: 127 (1958). (2397)

It is shown that measurement of the breaking strength of the fiber is the most reliable criterion of its spinning value.

RELATION BETWEEN UREA-BISULFITE SOLUBILITY AND DISULFIDE EXCHANGE IN WOOL. H. Kessler and H. Zahn. (Letter to the editor). Textile Research J. 28: 357-358 (Apr. 1958). (2398)

COLOR CHANGE IN RAW COTTON RELATED TO CONDITIONS OF STORAGE. D. Nickerson and J. J. Tomaszewski (U.S. Dept. Agric.). Textile Research J. 28: 485-497 (June 1958). (2399)

Changes in color are reported for several sets of cotton from 1956 grade standards bales stored under 14 conditions of temperature and humidity. Color measurements are reported for samples before storage and periodically during storage up to a little over 1 year. Storage under moderate temperatures (50°, perhaps even 60°) accompanied by controls that keep the relative humidity reasonably low (50% or less) should succeed in holding color change to a satisfactory minimum for at least 2 or 3 years. Where it is not feasible to control temperature, a control of humidity alone should succeed in reducing the degree of color change in storage that might otherwise take place within any given period. Graphs. 8 references.

SUGAR, pH, AND STRENGTH CHANGES IN COTTON DURING STORAGE. D. Nickerson and J. J. Tomaszewski (U.S. Agri. Mktg. Serv.). (Letter to the editor). Textile Research J. 28: 528-529 (June 1958). (2400)

To study the sugar and pH change under storage in comparison to the color changes, measurements were made on samples stored at 0° and 85° F at high humidity, and for samples held under two conditions of humidity at 50°, 70°, and 100°. The data showed clearly that there are greater changes in the high grades than in the low, and that the only real changes occurred under high humidities at temperatures 50°-85°. Only minor differences in sugar and pH occur even for large color changes when the color change is chiefly in the direction of increasing yellowness that is normal to cotton storage, but there are large changes in both sugar and pH when there is microbiological action in the presence of high humidities. Graphs. 3 references.

VARIABILITY OF SET IN KERATIN FIBERS. T. Mitchell and M. Feughelman (Wool Textile Research Labs., Australia). Textile Research J. 28: 453-456 (June 1958). (2401)

The amount of "permanent" set in a number of keratin fibers was measured, the fibers being strained 40% for 1 hr in distilled water at 100° C and then released slack for 1 hr in the water. Variation in the amount of set retained by various keratin fibers was noted. The amount of set appears to correlate strongly with the ability of the particular fiber to supercontract and tends to be dependent on the fiber diameter. Graphs. Table. Diagram. 7 references.

BILATERAL STRUCTURE AND THE SWELLING OF MILD PRETREATED WOOLS (DISULFIDE EXCHANGE). G. Satlow and H. Kessler. (Letter to the editor). Textile Research J. 28: 359 (Apr. 1958). (2402)

Confirmation of the hypothesis that a mild alkaline treatment polymerizes the wool proteins by changing intrachenic disulfide groups into interchenic cross-linkages by means of disulfide exchange and that the disulfide exchange takes place in the orthocortex as well as in the paracortex is presented. Table. 5 references.

SOME RELATIONSHIPS BETWEEN SUPERMOLECULAR STRUCTURE AND MECHANICAL BEHAVIOR OF NATIVE AND CHEMICALLY MODIFIED COTTON CELLULOSE. V. W. Tripp, R. S. Orr, H. M. Ziifle, and C. M. Conrad (So. Reg. Research Lab.). Textile Research J. 28: 404-417 (May 1958). (2403)

Among the responses considered are strength, elongation, stiffness, toughness, elasticity, and resilience. Selected examples are presented, showing how the mechanical behavior is conditioned in various ways by the supermolecular structure. Graphs. Tables. 43 references.

CHANGES IN THE WEIGHT DISTRIBUTION OF FIBER LENGTHS OF COTTON AS A RESULT OF RANDOM FIBER BREAKAGE. W. J. Byatt and J. P. Elting (Kendall Co. Research Labs.). Textile Research J. 28: 417-421 (May 1958). (2404)

An integro-differential equation is derived; it describes the time rate of change of the weight distribution of lengths for cotton fibers. A solution to the equation is found. Comparison between theory and experiment is made. Agreement is satisfactory. Table. Graphs. 10 references.

MANMADE FIBERS A 2

REACTION SPINNING OF FIBERS. H. A. Pohl (Plastics Lab., Princeton Univ.). Textile Research J. 28: 473-477 (June 1958). (2405)

In reaction spinning, the usual viscosity increase required between spinneret and windup is accomplished by chemical reaction. Incompletely polymerized or incompletely solubilized polymer is forced through an extrusion die or spinneret under such conditions of rate, temperature, concentration, and activation that the polymerization proceeds rapidly within the fiber after it leaves the spinneret. This causes the soft extruded fiber to set to a solid or suitably semisolid state in fiber form on the windup package, where further reaction will complete the transformation to the desired fiber properties. Principles and experimental examples of the process are described. Diagram. Graph. 7 references.

SUNLIGHT RESISTANT POLYETHYLENE. V. L. Erlich (Reeves Bros. Inc.). Modern Textiles Mag. 39: 41-42 (June 1958). (2406)

Reevon polyethylene filament is stabilized to ultraviolet radiation in a wide range of colors including the brighter ones. Curves comparing the strength loss of Reevon and conventional filaments upon exposure to sunlamp irradiation are given.

FIBERS NOTEBOOK. PART 5. Fibres 19: 161-162 (May 1958). (2407)

The structure, properties, and uses of Pe Ce (chlorinated polyvinyl chloride), PCU (polyvinyl chloride), and Vinylon (polyvinyl alcohol fiber) are summarized.

RECENT DEVELOPMENTS IN ACRYLIC FIBERS. P. W. Sherwood. Can. Textile J. 75: 50-52 (June 13, 1958). (2408)

The trade names, manufacturers, and country of origin of various types of acrylic fibers are summarized, and it is pointed out that the wide range of properties exhibited by the different acrylics stems from differences in chemical composition and spinning methods. A brief summary of the main applications of the acrylic fibers is included. 10 references.

NEWS ABOUT FIBRENKA. J. A. K. Buisman. Enka Breda Rayon Rev. 12: 1-5 (Mar. 1958). (2409)

The wide choice of deniers and lengths of Fibrenka staple fibers available for wool and cotton spinning and for use in carpets, curtains, blankets, wadding, and upholstery is described.

ISOTACTIC POLYMERS AND LINEAR POLYTHENE. Skinner's Silk & Rayon Record 32: 623-627 (June 1958). (2410)

Developments in the production of isotactic polymers as exemplified by Moplen (isotactic polypropylene) and Courlene X3 (linear polythene), and the importance of the Ziegler catalysts in their production are summarized. Tables. Graphs.

TRICEL FOR INDUSTRIALS AND FILLINGS. Man-Made Textiles 35: 84, 86 (June 1958). (2411)

The properties of Tricel which makes it suitable for industrial fabrics and for filling material for quilts and quilted fabrics are noted.

YARN PRODUCTION B

PROBLEM OF IRREGULARITY IN COTTON SPINNING. A. Valota. Industrie Textile: 521-523 (July 1957); 649-651 (Sept. 1957). In French. Through BCIRA 37: 799 (1957). (2412)

Yarn count variations due to drafting are discussed.

POINTERS IN THE MANUFACTURE OF COLORED WORSTED YARNS. Can. Textile J. 75: 66-67 (May 2, 1958). (2413)

Factors affecting the blending of wools of different colors are briefly reviewed. Photographs.

CLEANING TEAMS IN THREE-ROLLER SPINNING MILLS. J. Dollmayer. Spinner u. Weber 75, No. 24: 1318-1320 (1957). In German. Through BCIRA 38: 113 (1958). (2414)

The tasks, organization, and employment of cleaning teams in spinning mills are discussed.

ASBESTOS IN THE TEXTILE INDUSTRY. R. Hünlich. Melliand Textilber. (English ed.) 39, No. 2: 79-85 (1958). (2415)

The extraction, mixing, carding, and spinning processes and machines used in the processing of asbestos for textile uses are described. Photographs. Diagrams.

NEW CLEANING INSTALLATIONS IN COTTON AND VISCOSE STAPLE SPINNING MILLS. R. Fahrbach. Melliand Textilber. 38, No. 11: 1211-1216; No. 12: 1328-1332 (1957). In German. Through BCIRA 38: 50 (1958). (2416)

Single-process installations of leading German and foreign textile machinery makers are described and illustrated, and the characteristics and mechanisms of the respective machines are pointed out.

CRIMPING AND SURFACE PREPARATION OF POLYAMIDE FIBERS. J. Moravek. Spinner u. Weber 75, No. 19: 1000-1002 (1957). In German. Through BCIRA 38: 110 (1958). (2417)

A new method for crimping and surface-raising of Perlon fibers is described, by means of which it is possible to impart to the fibers an angora wool-like character. As compared with known crimping methods, the process described produces softer matt fibers with excellent spinnability.

TOHO DIRECT SPINNING SYSTEM. Toho Rayon Co. Man-Made Textiles 35: 78 (June 1958). (2418)

A double zone system is employed consisting of a tow breaking and a drawing section, permitting greater total drafts and higher tow deniers in the creel. Photograph.

OPENING, PICKING, FIBER PREPARATION B 1

AUTOMATION IN A CARPET MILL. L. Walter. Textile Inds. 122: 93-95 (June 1958). (2419)

An automatic control system for the blending of fibers in the Petmar plant for the production of woven and tufted carpeting is described.

TWO-CYLINDER OPENER. H. Schirp Maschinenfabrik. Melliand Textilber. (English ed.) 39, No. 2: 85, 87 (1958). (2420)

Features and operation are briefly described.

MODERN OPENING AND CLEANING PRACTICES. J. L. Orr (Whitin Mach. Works). Textile Bull. 84: 130-134 (May 1958). (2421)

Ideally, efficient cotton opening and cleaning machinery should remove all the foreign matter completely and remove all undesired elements, such as neps and motes and the shorter fibers. Some of the unfavorable results of such mill practices as overloading the blending feeders, use of long ducts, cotton compression, insufficient opening, and overbeating are discussed, and methods of avoiding them are pointed out.

JUTE PREPARATION MACHINES. Douglas Fraser & Sons Ltd. Textile Recorder 76: 76-78 (June 1958). (2422)

Features of a new range of jute blending machines which include a bale squeezer and two feeders designed especially to handle cuttings and other types of short fiber where they are included in the batch are described. Photographs.

HOW MUCH OPENING? J. C. Hubbard and J. S. Graham (Clemson Coll.). Textile Inds. 122: 150-153 (June 1958). (2423)

A recent investigation of the effect of various degrees of opening and cleaning indicates that when opening and cleaning compressed bales of California SLM cotton with conventional opening and cleaning machinery, the number of opening and cleaning processes used is rather critical. Although nep count seems to increase with degree of opening and cleaning, the rate of increase is not great for tests using not more than two openers. With the addition of a third opener, the nep count rose sharply. The use of one vertical opener and one No. 12 opener seems to give the best results. The percent lint loss, the percent nonuniformity, the loading of card fillet, and the foreign matter in card sliver are all at a minimum in this test as compared with the other tests run. However, the number of neps in the card web is somewhat higher in this test than in tests where less opening was used. Graphs. Tables.

FIRE PREVENTION AND AUTOMATIC CLEARANCE OF DUST CELLARS WITH IMPROVED CONDITIONS IN OPENING ROOMS. H. Fenne. Melliand Textilber. (English ed.) 39, No. 2: 91-92 (1958). (2424)

The filter plant described makes use of drum filters, in addition to the usual tubular filters. These filters consist of slowly rotating drums covered with fine wire gauze which is fire retarding and also acts as a safeguard against explosions. The dust adhering to the drum is continually removed. Diagrams.

BETTER BLENDS FROM POORER QUALITY COTTON. H. Sills (Saco-Lowell Shops). Textile Bull. 84: 134-136 (May 1958). (2425)

Some recommendations are made regarding cleaning procedures and equipment for upgrading poor quality cotton.

CARDING AND COMBING B 2

CHOICE AND SETTING OF CARD CLOTHING FOR COTTON CARDS AND RAISING MACHINES. P. J. M. Van Gorp. Tex 16, No. 9: 1211-1212 (1957). In Dutch. Through BCIRA 38: 14 (1958). (2426)

CARD BEND REFINISHING. Canton Cotton Mills. Textile Inds. 122: 83-85 (June 1958). (2427)

A system for removing the flexible bends from a card, installing parts for a new setting system, and replacing the bends is described in words and pictures.

CARDING MACHINE WITH CYLINDRICAL FLATS. S. S. Ivanov. Tekstil. Prom. 17, No. 8: 23-26 (1957). In Russian. Through BCIRA 38: 14 (1958). (2428)

RIETER CARD MODEL C1. H. J. Isler. Melliand Textilber. 38, No. 11: 1217-1220 (1957). In German. Through BCIRA 38: 50 (1958). (2429)

The new revolving flat card shows improved stability, a large cylinder with 110 flats which can be accurately adjusted and have a new construction, improved arrangement of the grinding motion and new grinding mechanism, new discharging means, electrical control, and roller bearings for all bearing points. All driving means are arranged at the right side of the machine. The card has a working width of 995 mm. The normal lap width is 985 mm, the maximum width 1015 mm. Power consumption varies according to the production required from 0.7 to 1.2 hp; the production ranges between 3 and 7.5 kg/h, depending upon the material and requirements.

STUDY OF SOME FACTORS AFFECTING THE PULLING OF RAGS. PART 4. C. D. Meyer and P. P. Townend. Textile Mfr. 84: 176-179 (Apr. 1958). (2430)

The effects of feed roller speed, feed roller setting, feed roller diameter, number of teeth in the swift, bit box slide setting, bit roller setting, and rate of production on the percentage fiber in the shoddy were determined for various pulling conditions. Tables. For previous parts see abstr. 22, 440, and 785/58.

OPERATION OF COTTON CARD DOFFER. D. Kaufmann. Textil-Praxis 12, No. 11: 1077-1082 (1957). In German. Through BCIRA 38: 83 (1958). (2431)

Transition of the fibers from the cylinder to the doffer is theoretically examined, with reference to the transition factor and the feeding rate of the fibers. The investigation showed that the transition factor for the cotton processed and a card with hook clothing ranges from 0.06 to 0.09, depending upon the working condition between cylinder and doffer; it is practically independent of the amount of fibers fed or present on the cylinder. The transition factor was found to depend upon the cylinder/doffer setting, the cylinder/doffer speed ratio, and the driving speed of the card.

EFFECT OF COMBER LAP PREPARATION ON YARN QUALITY. D. H. Cauble (A. M. Smyre Mfg. Co.). Textile Research J. 28: 502-504 (June 1958). (2432)

The effects of three methods of lap preparation (one drawing followed by lap winding, two drawings followed by lap winding, and three drawings followed by lap winding) on yarn quality are described. Table. Graphs.

DRAWING AND ROVING B 3

HIGH DRAFT SPEED FRAME IN THE MODERN COTTON SPINNING MILL. T. Schäfer. Textil-Praxis 12, No. 12: 1200-1202 (1957). In German. Through BCIRA 38: 112 (1958). (2433)

The function of the high draft speed frame was reexamined in view of the highest drafts applicable today on ring spinning machines. It was found that the high draft speed frame represents a passage for roving which, after passing the drafting mechanism of the speed frame, has the same character as the drawframe sliver. Improvement of the length variation values can be attained by preceding or subsequent doublings in the usual manner.

SOME DETAILS OF DRAFTING. C. Brandt (Whitin Mach. Works). Textile Bull. 84: 138-141 (May 1958). (2434)

The importance and amount of break draft are discussed in addition to the effect of twist on drafting resistance and the effect of roll runout on yarn uniformity.

SYNTHETIC DRAFTING APRONS. E. M. Rothermel (Dayton Rubber Co.). Textile Bull. 84: 136-138 (May 1958). (2435)

Buna-N is shown to be an ideal material for drafting aprons because of its resistance to oils, atmospheric moisture, and sinking in the traverse area, as well as uniform thickness, flexibility, and controlled coefficient of friction.

DRAFTING FAULTS. O. König. Textil-Praxis 12, No. 11: 1082-1086 (1957). In German. Through BCIRA 38: 83 (1958). (2436)

Causes of faulty roller drafting are discussed, with special reference to the drafting waves caused by floating fibers. It is shown that there are two types of drafting waves. Important drafting faults, which cause periodic and nonperiodic waves, are briefly reviewed and measures are pointed out, by which the magnitude of these waves can be reduced. It is of particular importance to render the setting of the drawing frame independent of a change in the amount of fibers fed.

SPINNING, WINDING, TWISTING B 4

EFFECT OF BOTTOM FRONT ROLL RUNOUT IN SPINNING ON YARN QUALITY AND PROCESSING PERFORMANCE. L. O. Bragg (Inst. Textile Technol.). Textile Research J. 28: 520-527 (June 1958). (2437)

From a study of bottom front roll runouts in spinning, it was found that: (1) square neck jointed rolls have higher roll runouts than screw neck jointed rolls; (2) only a relatively small percentage of the stands had excessively high roll runouts; (3) the quality of 31/1 warp yarn appreciably deteriorates at bottom front roll runouts in excess of 0.0055 in; (4) as the bottom front roll runout increases, more rejects in spooling and more warp stops in weaving occur; and (5) the appearance of 80 x 80 print cloth, woven with various filling yarns, decreased with increase in bottom front roll runout. Tables. Graphs. Photographs. 2 references.

APRONS FOR THE BOTTOM POSITION OF ROTH AND DUO-ROTH TYPE FRAMES. R. S. Olcott (Armstrong Cork Co.). Textile Bull. 84: 142-144 (May 1958). (2438)

This paper outlines the major requirements for aprons used in Roth and Duo-Roth spinning frames including such factors as resistance to premature ozone cracking, flex crack resistance, dimensional stability, and uniformity of thickness to insure proper tracking and fiber control. The Accotex NO-7876 apron which has been designed to meet these requirements is described.

HIGH DRAFTING AS APPLIED TO JUTE SPINNING. K. K. Chatterjee (Indian Central Jute Comm.). Indian Textile J. 68: 306-307, 314 (Feb. 1958). (2439)

VIBRATION OF THE TRAVELER ON SPINNING MACHINES. E. D. Mizonov. Tekstil. Prom. 17, No. 8: 26-27 (1957). In Russian. Through BCIRA 38: 15 (1958). (2440)

On the basis of experiments it is concluded that uniform and moderate vibration of the traveler favorably affects the spinning process as a result of decreased frictional forces between traveler and spinning ring and, consequently, reduced yarn tension and increased running time of the traveler. If the rings on cotton spinning machines were constructed or adjusted so as to impart vibration to the traveler, it would be possible to increase the spindle speed and, thus, the productivity of the ring spinning machine.

YARN TENSION ON THE RING SPINNING MACHINE, WITH SPECIAL REFERENCE TO THE USE OF ADJUSTABLE SPEED MOTORS. PART 1. W. Weide and K. Reusch. Deut. Textiltech. 7, No. 10: 543-547 (1957). In German. Through BCIRA 38: 51 (1958). (2441)

Yarn tension and its component forces are discussed and equations are given for their quantitative determination.

IMPORTANCE OF SPINNING ROLLS AND COTS. K.-H. Hanke. Deut. Textiltech. 7, No. 11: 583-588 (1957) In German. Through BCIRA 38: 83 (1958). (2442)

Rolls and cots in drafting systems of spinning machines are discussed, with reference to their development and required properties (sufficient constant elasticity, satisfactory gripping power, smooth surface and homogeneous structure, resistance to abrasion, resistance to fats and oils, dye repellency, high stability to heat, light, and moisture and to static electricity, etc.).

BOBBINS FOR TWISTING SYNTHETIC FILAMENTS. F. Fourné. Melliand Textilber. 38, No. 11: 1220-1223 (1957). In German. Through BCIRA 38: 51 (1958). (2443)

Various types of bobbins for winding manmade yarns are examined with respect to their technological and economical aspects when used in twisting. It is shown that, for the bobbins generally used in Germany, the optimum spindle speed is 9,000-12,000 rev/min.

MODERN WORSTED SPINNING PRACTICE: FURTHER DEVELOPMENTS IN LARGE PACKAGE SPINNING. N. Roper. Textile Mfr. 84: 223-228 (May 1958). (2444)

The particular suitability of the ring frame for the building of large packages, as well as the difficulties involved in its use, is explained. The features and advantages of the Saco-Lowell SS-4 and SS-4G, Whitin Superflex, Spinnbau Perfect, Schlumberger, and Magnaspin ring frames are then described. Photographs. Diagrams.

HOW TO TWIST SYNTHETIC YARNS FOR FISHNETS. S. Mulberry. Skinner's Silk & Rayon Record 32: 618-619 (June 1958). (2445)

The yarns used for fishnet construction demand a balanced twist. A machine which has been successfully used for nylon and Terylene for folding and cabling is the Universal ring twisting frame made by Prince-Smith & Stells. The operation and features of the machine are described. Photographs.

HISTORY OF WINDING. W. English. J. Textile Inst. 49: P168-P194 (May 1958). (2446)

Mather lecture 1958. Photographs. Diagrams. 46 references.

YARNS B 5

WHERE NYLON CORD STANDS IN THE TIRE MARKET. J. L. Hayman (E. I. du Pont de Nemours & Co.). Can. Textile J. 75: 49-53 (May 30, 1958). (2447)

Laboratory data on the following properties of nylon tire cord are presented: bruise resistance, high-speed performance, flex fatigue resistance, heat resistance, moisture resistance, durability, safety features, and long-range economy. In all of these nylon was found to be superior to rayon. Graphs. Tables.

EFFECT OF VELOCITY ON THE FRICTION BETWEEN FILAMENTS AND SOLID BODIES. E. Honegger. Textil-Rundschau 12, No. 10: 551-560 (1957). In German. Through BCIRA 38: 32 (1958). (2448)

The study described concerns the sliding friction of various yarns at velocities increasing from small values to 1,000 m/min. Only smooth surfaces can be used for thread-brakes or -guides. Measurements have shown that the friction coefficient depends upon the type of fiber, yarn twist, diameter of the friction roller, and the sliding velocity of the thread. It increases with increasing contact surface between thread and friction body and with increasing sliding velocity of the thread; it is, accordingly, especially high for loosely-twisted yarns from continuous filaments. The adjustment of the yarn brakes must, therefore, be carried out individually, taking into account the yarn type, yarn twist, and sliding velocity. The difference between various fibers becomes smaller with increasing yarn twist.

PLOWING THEORY OF YARN SURFACE FRICTION. E. J. Kaliski (E. I. du Pont de Nemours & Co.). Textile Research J. 28: 325-329 (Apr. 1958). (2449)

Current theories of friction do not explain the fact that the friction of many fibers on typical guide surfaces is a function of the guide surface roughness. This friction has been found to vary inversely with increasing roughness within certain levels. In this paper a theory to explain the phenomenon is proposed. It is based upon work by Bowden and Tabor and others, in which the plowing of metal in front of a slider of a harder material than the surface upon which it slides is considered in addition to the shearing of junctions made between the two metals. Initial experimental work on polished and matte chrome surfaces indicates that this theory may apply to yarn friction cases where boundary friction predominates. Graph. Tables. Diagram. 8 references.

STRESS-STRAIN RELATIONSHIPS IN YARNS SUBJECTED TO RAPID IMPACT LOADING. PART 5. WAVE PROPAGATION IN LONG TEXTILE YARNS IMPACTED TRANSVERSELY. J. C. Smith, F. L. McCrackin, and H. F. Schiefer (Nat. Bur. Standards). Textile Research J. 28: 288-302 (Apr. 1958). (2450)

The paper deals with the theory of transverse wave propagation in yarns of infinite length where there are no clamps to reflect the waves. Graphs. 11 references.

PUNCHED-CARD METHODS FOR STUDYING FIBER-YARN RELATIONSHIPS. H. Wakeham and L. D. Steward (Textile Research Inst.). Textile Research J. 28: 431-441 (May 1958). (2451)

Methods of applying punched-card computing to a study of the relationships between fibers and yarns are described. Various factors such as fiber property distributions, fiber arrangements, the interaction of fiber properties with yarn structure, and the yarn breakage mechanism are considered. Some informational needs which may lead to a better comprehension of the problem and ultimately to a valid prediction of yarn properties are discussed. Graphs. 22 references.

CONSTRUCTIONS OF TWISTED YARNS. PART 1. A. Wilhelm and J. G. Helli. Textil-Praxis 12, No. 11: 1092-1099 (1957). In German. Through BCIRA 38: 84 (1958). (2452)

Relationship between the twist of single yarn and that of 2-ply yarn is discussed, with reference to "balanced" yarns, in which there is no distinct ratio of singles twist to yarn twist. The proportional number in the example given increases with increasing number of twists from 1:2.00 to 1:2.33. Various types of single and folded yarn and fiber position in twisted Z/S and Z/Z yarns are illustrated, and diagrams are given to show the untwisting tendency of various twisted yarn constructions in dependence of load and twist.

INFLUENCE OF THE SPINNING PROCESS ON THE HAIRINESS OF WOOLEN AND WORSTED YARNS. A. Barella and M. Ruiz Cuevas. (Letter to the editor). J. Textile Inst. 49: P195-P198 (May 1958). (2453)

EFFECT OF TEMPERATURE ON THE RATE OF CREEP FAILURE FOR 66 NYLON. B. D. Coleman, A. G. Knox, and W. F. McDevit (E.I. du Pont de Nemours & Co.). Textile Research J. 28: 393-399 (May 1958). (2454)

Measurements have been made of the lifetime under dead load behavior of high tenacity bright nylon yarn in dry nitrogen at eight temperatures in the range 30-125° C. The data obtained have been interpreted using a previously published absolute reaction rate theory of the creep failure of oriented crystalline polymeric fibers. The prediction of the theory that the logarithm of the lifetime should be a linear function of the sustained dead load was found to be consistent with the experimental results at all temperatures investigated. Diagram. Graphs. Tables. 5 references.

HIGH-BULK YARNS OF ORLON ACRYLIC FIBER FOR KNITTING. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. May 1958. 4 p. Bull. OR-90. Free. (2455)

High and low shrinkage fibers are combined and steamed. Photomicrographs. Graph. Schematic drawing of the relative fiber deniers of Orlon and the various natural fibers used in blending.

FABRIC PRODUCTION C

REINERS YARN TENSION DEVICE AND BRAKE. C. Bouquillon. Industrie Textile: 797-799 (Nov. 1957). In French. Through BCIRA 38: 144 (1958). (2456)

SWISS WINDING, WARPING, AND WEAVING MACHINERY. D. C. Snowden. Wool Rev. 31: 25-28 (May 1958). (2457)

Personal impressions of visits to machinery manufacturers in Switzerland.

WARPING, SLASHING, YARN PREPARATION C 1

YARN CLEARER. H. Eigenbertz. Melliand Textilber. 38, No. 10: 1106-1109; No. 11: 1230-1231 (1957). In German. Through BCIRA 38: 52 (1958). (2458)

The function of a yarn clearer is discussed and the constructions of three groups of clearers are described (slot-, comb- and oscillating-disc clearer systems).

AUTOMATIC STOPPING OF WINDING MACHINE WHEN DESIRED CHEESE DIAMETER IS REACHED. PART 1. R. Burgholz. Textil-Praxis 12, No. 11: 1111-1115 (1957). In German. Through BCIRA 38: 86 (1958). (2459)

Arguments against automation are examined and the advantages of automatic stoppage of the machine during cross-winding, so as to obtain bobbins with the same diameter, are discussed.

SPEED OF CONICAL CHEESES DRIVEN AT THE PERIPHERY. L. Vekassy. Faserforsch. u. Textiltech. 8, No. 9: 373-374 (1957). In German. Through BCIRA 38: 52 (1958). (2460)

Equations are given for calculating the speed, taking into account the uneven load distribution caused by the conical shape of the bobbin.

UNWINDING CONDITIONS ON CHEESE WINDING MACHINES WITH HIGH YARN VELOCITY. PART 1. F. Walz and J. Gayler. Textil-Praxis 12, No. 10: 965-970 (1957). In German. Through BCIRA 38: 17 (1958). (2461)

After discussing the theory of ballooning and the forces involved, the authors show that the thread tension for a certain winding velocity cannot be determined from the equations developed but must be evaluated from direct measurements on the balloon itself during spinning tests. The practical value of the equations is due to the fact that they show the relationship between balloon shape and yarn tension.

UNWINDING CONDITIONS ON HIGH SPEED CHEESE WINDING MACHINES. PARTS 2 AND 3. F. Walz and J. Gayler. Textil-Praxis 12, No. 12: 1202-1209 (1957); 13, No. 1: 36-41 (1958). In German. Through BCIRA 38: 116 (1958). (2462)

In Part 2 the authors discuss tension diagrams and the measuring device used, with special reference to tension diagrams with undisturbed balloon formation, and tension diagrams in which the balloon formation was counteracted by using the Schlafhorst balloon breakers and the Weber tube. In Part 3, the balloon theory is used to investigate the effects of cop size and shape and of the winding type on the unwinding behavior. Optimum distance between tube cap and thread guide is determined and some important results of yarn breakage diagrams are reported.

MULLER SPLIT DRUM CROSS WINDING MACHINE. J. Schneider. Melliand Textilber. (English ed.) 39, No. 2: 94-106 (1958). (2463)

In the Muller machine each half of the drum is driven individually. There is no axle, no shaft, and no ellipse inside the drum on which broken yarn ends can get caught, so that unwanted coil formation is made impossible. By using unwinding accelerators and balloon breakers, yarn speeds of up to 1600 yd/min are possible. The drum-halves together form the combined thread guide element. The thread passes through the two drum-halves and is wound onto the package in the conventional way. Other features of the machine are described. Photographs. Diagrams.

HOLT'S ELECTROMAGNETIC WARP WINDER MODEL N. Thomas Holt Ltd. Textile Merc. 138: 804-807 (May 23, 1958). (2464)

The most important claim for this winder is that it improves the quality of the wind, while considerably increasing the speed and size of package produced. In order to demonstrate the advantages of the new winder, it is compared with the present friction driven machine. Details of the main features of the machine are noted. Graphs. Diagrams. Photographs.

NEW SIZING AGENTS. H. Gensel. Spinner u. Weber 75, No. 19: 1016-1018 (1957). In German. Through BCIRA 38: 116 (1958). (2465)

The disadvantages of linseed-oil sizes are overcome by the use of the resin-based Ortoxin LEW and LEH products (Farbenfabriken Bayer), available as 50% solutions of the active substance in white spirit. They can be diluted, if required (for warp sizing), with perchlorethylene. The practical use of these products and their advantages are described.

SOME PHYSICAL AND CHEMICAL PROPERTIES OF TAMARIND KERNEL POWDER. PART 2. MOISTURE SORPTION AND GELATINIZATION CHARACTERISTICS OF RAW, ROASTED, AND PURIFIED TAMARIND KERNEL POWDER. W. G. Macmillan, S. Nag, and I. B. Chakraverti (Indian Jute Mills Assoc. Research Inst.). J. Sci. Ind. Research (India) 17B: 75-82 (Feb. 1958). (2466)

SOME ASPECTS OF MODERN WARP SIZING. H. Hacking. Textile Merc. 138: 916-920, 922 (June 13, 1958). (2467)

The advantages of the dry-feed attachment to the Shirley automatic size box are described and illustrated. Photographs. Table.

AUTOMATIC CONTROL OF MODERN SIZING MACHINES. G. Lammens and J. Desmet. Ann. Sci. Textiles Belges No. 3: 30-54 (Sept. 1957). In French. Through BCIRA 38: 87 (1958). (2468)

Sizing of warp yarns, driving of a slasher by means of sectional electrical drives, and control of the drying process are discussed, with special reference to the automatically controlled Fabelta-Tubize sizing machine. This machine is equipped with nine drying cylinders, general control means, and temperature control means. Use, maintenance, and performance of the slasher are described.

IS A SIZE HOMOGENIZER PROFITABLE? A. Lippe. Textil-Praxis 12, No. 10: 1003-1004 (1957). In German. Through BCIRA 38: 17 (1958). (2469)

Experiments with the Rapisonic homogenizer are reported and its economic and other advantages are pointed out.

SETTING OF THE CONE WARPING MACHINE. E. Rudloff. Deut. Textiltech. 7, No. 10: 549-553 (1957). In German. Through BCIRA 38: 52 (1958). (2470)

The effects of inaccurate setting of warping machines are enumerated and a nomographic method is suggested both for coarse and fine adjustment. The use of the nomograms developed for this purpose and of a special measuring instrument constructed by the author is explained, and derivation of the formulas for the nomograms is discussed.

TEXTILE MACHINE ACCESSORIES. J. Schneider. Melliand Textilber. 38, No. 9: 986-990; No. 10: 1110-1113; No. 11: 1234-1235 (1957). In German. Through BCIRA 38: 52 (1958). (2471)

Various types of bobbin tubes (paper, hardboard, metal), and warp-beam constructions are described.

PREPARATORY MACHINES FOR INDUSTRIES PROCESSING MANMADE FIBERS. J. Schneider. Reyon, Zellwolle u. Chemiefasern No. 9: 632-639; No. 10: 707-710 (1957). In German. Through BCIRA 38: 52 (1958). (2472)

The author describes machines for drawing-in and knotting the warp as well as weft-winding machines.

MODERN WARPING FRAMES. P. J. M. Van Gorp. Tex 16, No. 10: 1378-1390 (1957). In Dutch. Through BCIRA 38: 17 (1958). (2473)

DEVELOPMENTS IN THE CONSTRUCTION OF BEAM WARPING MACHINES. P. J. M. van Gorp. Tex 16, No. 12: 1667-1668, 1671-1677 (1957). In Dutch. Through BCIRA 38: 116 (1958). (2474)

WEAVING C 2

SOME RESULTS OBTAINED BY EXAMINING FABRIC TENSIONS PRODUCED BY THE TENSION ROLLER IN WEAVING. A. M. Bystrov. Tekstil. Prom. 17, No. 8: 36-40 (1957). In Russian. Through BCIRA 38: 18 (1958). (2475)

WEFT TENSION DURING WEAVING. K. Greenwood and G. N. Vaughan (Brit. Rayon Research Assoc.). J. Textile Inst. 49: T247-T264 (May 1958). (2476)

A method is described for the measurement of weft tension during the shuttle flight and during the subsequent period of rest in the shuttle box up to the closing of the shed. From a correlation of these measurements with cloth quality for various loom settings, it is shown that the tension at the instant of shed closing (the final tension) is decisive for cloth quality. It is found that the final tension depends on the tension during shuttle flight and on various loom settings such as shed timing, picking, and checking. Diagrams. Graphs. Tables.

TECHNIQUE OF WEAVING COTTON POPLIN. A. H. Keller. Brasil Textil No. 8: 2-8 (Aug. 1957). In Portuguese. Through BCIRA 38: 18 (1958). (2477)

Production of cotton poplin and the difficulties encountered during its manufacture are discussed, and reference is also made to the finishing of poplins.

CONTROLLING QUALITY IN THE WEAVING DEPARTMENT. F. G. Ernest. Textile Inds. 122: 97-98 (June 1958). (2478)

The optimum levels of quality performance and efficiency which represent a desirable compromise between maximum production and 100% first quality production may be determined by calculating the cost of administering a program and evaluating the increase in total value of the product derived from the program. A method of making such an analysis is suggested.

WEAVING OVERWAXED CARDED WARP YARNS. R. Bayles. Textile Inds. 122: 86-87 (June 1958). (2479)

Improvements obtained by overwaxing at the delivery end of the slasher include less tendency of fly to stick to looms, lessened sensitivity of box leathers to humidity changes, and an increase in weaving efficiency. Details of a mill test are included.

WEAVING CALCULATIONS USING WEIGHT NUMBERING, ESPECIALLY THE TEX SYSTEM. U. Schirdewan. Textil-Praxis 12, No. 10: 992-994 (1957). In German. Through BCIRA 38: 32 (1958). (2480)

An approximation equation is given, by means of which it is possible, using a slide rule, to determine the weight per meter (in g) for any given fabric from the fabric width (in cm), the number of warp and weft threads/cm, the yarn count of warp and weft yarn, and a conversion factor for converting the yarn count to the tex system. An example is given.

LOOM STUDIES: EFFECT OF SHED FORMATION ON WEAVING PROCESS AND FABRIC QUALITY. W. Frenzel. Faserforsch. u. Textiltech. 8, No. 10: 383-396 (1957). In German. Through BCIRA 38: 87 (1958). (2481)

Stress of the warp by shed formation (extra warp requirement, static and dynamic warp tensions, tension conditions in the single warp thread, frictional stresses), effect of shed formation on fabric quality, and the use of various types of shed formation mechanisms are discussed, with reference to the relevant literature data. Further studies are necessary to ascertain the suitability of weaving with half-open shed. 20 references.

SHUTTLE MOVEMENT AND ITS EFFECT ON THE INTERFERENCE-FREE WEAVING PROCESS. O. Reiter. Textil-Praxis 12, No. 11: 1118-1120 (1957). In German. Through BCIRA 38: 87 (1958). (2482)

The mechanisms of the Sulzer, Kovo, and Fayolle and Ripamonte shuttleless looms and their advantages as compared with the classical loom are discussed and causes of faulty shuttle movements and their elimination by correct maintenance and preparation of the loom and continuous control of the loom movements are pointed out.

FAULTS OCCURRING DURING BOBBIN CHANGE ON AUTOMATIC LOOMS AND THEIR EXPLANATION. H. Maier. Textil-Praxis 12, No. 11: 1115-1116 (1957). In German. Through BCIRA 38: 87 (1958). (2483)

HRDINA PIRN-CHANGING LOOM ATTACHMENT. H. Roder. Spinner u. Weber 75, No. 23: 1236-1237 (1957). In German (English translation). Through BCIRA 38: 117 (1958). (2484)

Construction and technical details are given of the Hrdina pirn-changing attachment; its applicability is discussed.

THOUMIRE SHUTTLELESS LOOM. J. Deussen. Spinner u. Weber 75, No. 18: 949-950 (1957). In German. Through BCIRA 38: 117 (1958). (2485)

The mechanism of this loom (Etab. Claude Thoumire) is described and its seven working stages are illustrated by diagrams. It is claimed that the simplicity of its construction, the almost unlimited running time of the weft-supplying pirns, and the use of weft- and warp-stop motions make it possible to entrust the attendance of 20 looms to one weaver.

DOUBLE LIFT JACQUARDS. H. Dersen. Melliand Textilber. (English ed.) 39, No. 2: 110 (1958). (2486)

The advantages of double lift over single lift jacquards, as well as their use in open and semi-open shedding, are briefly described.

POSSIBILITIES AND LIMITATIONS OF THE SULZER LOOM. J. F. Wirtz. Spinner u. Weber 75, No. 24: 1323-1325 (1957). In German. Through BCIRA 38: 117 (1958). (2487)

The economical aspects of the Sulzer machine are discussed.

LOW-BUILT LOOM. H. Hollstein. Deut. Textiltech. 7, No. 10: 557-559 (1957). In German. Through BCIRA 38: 53 (1958). (2488)

The effect of the working width of automatic cotton looms on their efficiency and working capacity is discussed and equations are given for quantitative determination of this relationship. Special reference is made to the automatic ES IV loom without superstructure (VEB Webstuhlbau Neugersdorf).

MODERN SHAFT MOTIONS. PART 1. CENTRAL TREADING MOTIONS. PART 2. OUTSIDE TREADING MOTIONS. K. Meier. Melliand Textilber. 38, No. 11: 1232-1234; No. 12: 1354-1356 (1957). In German. Through BCIRA 38: 53 (1958). (2489)

New shaft-controlling mechanisms are described, the use of which is necessitated by loom constructions without superstructure.

WEAVING TERRY TOWEL FABRICS. PART 3. H. Barlow. Textile Recorder 76: 62-64 (June 1958). (2490)

The author deals with various types of terry motions, warp fringing motions, and extra pick or cramming devices. Diagrams.

REVOLVING BOX MOTIONS. M. Zenk. Melliand Textilber. 38, No. 11: 1238-1240 (1957). In German. Through BCIRA 38: 53 (1958). (2491)

Development in the construction of revolving box motions is described, with special reference to revolving boxes with large cells for accommodating larger shuttles. This construction is able to increase considerably the productivity of looms, without costly investments and without the necessity of retraining the staff.

LOOM DRIVING MECHANISM. G. Schindler. Melliand Textilber. 38, No. 11: 1240-1243; No. 12: 1356-1358 (1957). In German. Through BCIRA 38: 53 (1958). (2492)

The arrangement of the motor, transmission gears, and couplings between the driving motor and loom are discussed. The choice of the switch mechanism, which completes the drive, depends upon the operating conditions; it must be fixed on the loom in a place where it is least subjected to vibrations.

HOW GOOD IS THE P45 JET LOOM? D. Brunnschweiler. Skinner's Silk & Rayon Record 32: 614-615 (June 1958). (2493)

Comparison of the features, cost, and floor space, power, and manpower requirements is made between the Czechoslovakian P45 jet looms and conventional single shuttle automatic looms. Photographs. Tables.

ASTRA GML FOR LOOMS WEAVING MEASURED, MULTICOLORED WOOL AND COTTON BLANKETS. H. G. Fussel. Melliand Textilber. (English ed.) 39, No. 2: 108, 110 (1958). (2494)

The difficulties inherent in weaving multicolored blankets on looms in which the box change mechanism is controlled by pattern chains may be overcome by the use of the Astra GML designed to meet the special requirements of these blankets.

QUILL INSPECTION AS A CHECK ON LOOM PERFORMANCE. W. C. Westbrook. Textile World 108: 71 (June 1958). (2495)

The quills that are ejected from the shuttle are a good indicator of the condition of the loom. The author discusses the faults that may be responsible for half-filled, completely empty, or broken quills, as well as for too many or too few quills in the can.

KNITTING C 3

IS HOSIERY LOOPING ON THE WAY OUT? W. E. Shinn. Knitter 22: 31-35 (June 1958). (2496)

The Getaz toe closure method (USP 2 740 279 and 2 281 847) is described in detail. Diagrams. Photographs.

KNITTING STRETCH YARNS LOOSELY. K. O. Metz. Textile Inds. 122: 179, 183 (June 1958). (2497)

A group of stitch cams, guard cams, slides, etc., developed by Scott & Williams for their Komets and Links and Links machines to permit looser knitting of stretch yarns is described and illustrated.

BENTLEY KL SEAMLESS NYLON HOSE MACHINE. Textile Weekly 58(1): 1511-1512 (May 30, 1958). (2498)

New features include a modification known as a Kleerknit mechanism, a unique fabric takedown device, and versatile patterning components. The Kleerknit mechanism gives exact control over the size and contour of the knitted loops. Photograph. Diagrams.

TIPS ON WELT TURNERS. W. D. Frye. Textile Inds. 122: 184-187 (June 1958). (2499)

Pointers on maintaining and fixing automatic welt turners are described in words and pictures.

ELEMENTS OF KNITWEAR DESIGN: SURFACE HEIGHT VARIATION FOR RELIEF EFFECTS. W. Davis. Hosiery Times 31: 46-47 (May 1958). (2500)

BENTLEY-COTTON FULL-FASHIONED OUTERWEAR LACE ATTACHMENT. Hosiery Trade J. 65: 64-66 (June 1958). (2501)

CRANK GEARS ON WARP KNITTING MACHINES. E. Prusa. Melliand Textilber. (English ed.) 39, No. 2: 134, 136 (1958). (2502)

The use of crank gears instead of cams to move knitting elements increases the speed of the machine. Warp knitting machines with crank gears include the FNF, Wirth, and Reading. The machines are compared to point out their similarities and individual characteristics.

VERSATILE YARN STOP MOTION FOR FLAT KNITTING MACHINES. W. Beutter. Hosiery Times 31: 55 (May 1958). (2503)

The stop motion device described (Ger. Pat. 1 742 116) is claimed to be the first of its kind to react to all types of yarn faults, e.g. knots, breakages, over-tensioning, etc. Diagram.

FABRICS C 4

TUFTED TEXTILES: PROGRESS REPORT. Man-Made Textiles 35: 43-64 (June 1958). (2504)

Styling potentialities and economics, p. 43-46; Production of short-staple carpet yarns, p. 48-49; Spinning long-staple pile yarns, p. 50-57; Dyeing and finishing of tufted carpets, p. 59; Machinery developments, p. 60-64.

CLOTH TERMS AND PARTICULARS: SILK FABRICS: TWILLS AND SATINS. W. Middlebrook. Textile Mfr. 84: 235-237 (May 1958). (2505)

Names of cloths, weaves, ends and picks, and types of yarns used in warp twills, weft and warp faced satins, and ribs and crepes are given. Photographs. Diagrams.

WOVEN FABRIC STRUCTURE: SIMPLE FIGURED EFFECTS WITH EXTRA WARP. D. C. Snowden. Man-Made Textiles 35: 72 (June 1958). (2506)

MICROSCOPICAL STUDY OF A MULTILAYER NYLON BODY ARMOR PANEL AFTER IMPACT. G. Susich, L. M. Dogliotti, and A. S. Wrigley (Quartermaster Research & Eng. Center). Textile Research J. 28: 361-377 (May 1958). (2507)

A body armor panel consisting of twelve identical layers of 2 x 2 basket weave nylon fabric was investigated after impact by a fragment simulator .22-caliber steel missile in the range of 330-420 m/sec (1100-1400 ft/sec) striking velocities. The kinetic energy of the projectile was either slightly higher or lower than that the panel could absorb (706,000 g-cm). Completely and partially penetrated holes were investigated. The area surrounding the bullet holes was studied to learn about the various types of deformations and damages in each layer. The microscopic observations were obtained at various magnifications (5, 10, and 200 x) from cross sections of the panel and from individual layers removed from the panel. Graphs. Photomicrographs. 11 references.

TUFTED TEXTILES 1958. Textile Inds. 122: 99-130 (June 1958). (2508)

Web controls for bedspread pattern printing, p. 101-103; March of the tufteds, p. 104, 126-128; Electrical tufting pattern control, by J. O. Erwin and W. Hammel, Jr., p. 106-107, 124; Carpet with foam rubber padding, p. 110-112; Why not print your tufted carpets, by P. Abbenheim, p. 117-122.

FABRICS WITH LOST PICKS. R. Wenzel. Textil-Praxis 12, No. 10: 997-998 (1957). In German. Through BCIRA 38: 19 (1958). (2509)

Fabrics with lost picks are characterized by a division of the warp threads in 1, 2, 3, 4 or more thread groups, in some of which, after a certain number of ground picks, a fancy thread is drawn in to form a pattern resembling embroidery. An example is shown and explained.

TECHNIQUE OF JACQUARD DESIGNING. O. Hughes. Textile Inds. 122: 159-163, 233 (June 1958). (2510)

Pointers on selecting proper design paper, short cuts in transferring sketch to design paper, making and using a copy desk, and preparing card-cutting instructions to ensure a minimum outlay of time and money.

BONDING AGENTS FOR NONWOVENS. R. G. Stoll (Celanese Corp.). Modern Textiles Mag. 39: 49-50 (June 1958). (2511)

The use of thermoplastic fibers, emulsions (e.g. butadiene-styrene), thermosetting and thermoplastic powders (e.g. phenolic resins), and solution type binders (e.g. polyvinyl alcohol or starch), as well as processes for their application, are discussed.

THEORY AND PRACTICE OF BLENDING WOOL AND CHEMICAL FIBERS. PART 2. MIXED FABRICS FROM WOOL AND VISCOSE SPUN RAYON, THEIR STRENGTH, ELONGATION, AND STRESS-STRAIN CURVES. J. Cirlic. Faserforsch. u. Textiltech. 8, No. 10: 397-408 (1957). In German. Through BCIRA 38: 104 (1958). (2512)

For part 1 see TTD 13: 347 (1956).

SOME ADVANTAGES OF COTTON/RAYON 80 x 80 PRINTCLOTH. G. V. Lund. Modern Textiles Mag. 39: 69-75 (June 1958). (2513)

Results of tests on the physical properties of cotton/rayon blends in resin finished fabrics are presented. Blend fabrics containing up to 25 or 35% rayon show a marked improvement in dry tensile and tear strength properties over 100% cotton fabrics at a similar wrinkle recovery level and have similar wet tensile and tear strength properties. Graphs. Tables.

FELTING INVESTIGATIONS. PART 1. POTENTIAL SUBSTITUTES FOR RABBIT FUR IN HAT FELTS. R. D. B. Fraser and T. A. Pressley (Wool Textile Research Labs., Australia). Textile Research J. 28: 478-485 (June 1958). (2514)

The felting characteristics and histological structures of a number of possible alternatives to rabbit fur in hat felts have been investigated. It is concluded that opossum, fox, and wallaby fur might be blended in considerable proportions with rabbit fur without seriously affecting the quality of the felt, and that crimpless (mutant) Merino wool might be used in small proportions. Diagram. Graphs. Photomicrographs. 5 references.

FACTORS INFLUENCING THE AIR PERMEABILITY OF FELT AND FELT-LIKE STRUCTURES. N. C. Davis (Am. Felt Co.). Textile Research J. 28: 318-324 (Apr. 1958). (2515)

Variations from the rated air permeability of filter fabrics have, in industry, resulted in impurities in the finished filtered product, inefficiencies of operation, and other difficulties. Several investigators have sought to relate the fundamental characteristics of filters with varying degrees of success. In this paper, the tested air permeabilities of a random sample population are investigated and their relationships to fabric density, thickness, and average fiber diameter are studied. A formulation, $Y = C\,1/X$, is suggested and shown to be valid for the constant pressure drop across the filter at which the tested air permeabilities are recorded. Tables. Graphs. 6 references.

CAR UPHOLSTERY IN THE MODERN IDIOM. PART 2. Man-Made Textiles 35: 80, 81 (June 1958). (2516)

The changing pattern in the usage of materials, with large scale opportunities for manmade fibers, is stressed.

SOME EFFECTS OF SINUSOIDAL PERIODIC YARN THICKNESS VARIATIONS ON THE APPEARANCE OF WOVEN CLOTH. H. Catling (Brit. Cotton Ind. Research Assoc.). J. Textile Inst. 49: T232-T246 (May 1958). (2517)

Sinusoidal periodic thickness variations in weft yarn of wavelength less than twice the width of the cloth cause diamond barring effects. The appearance of plain-weave spun rayon cloths, woven from weft yarn containing periodic thickness variations of known amplitude and wavelength, was investigated in order to determine the influence of pick spacing, the ratio of cloth width to wavelength in the yarn, and the amplitude in the yarn. An instrument for the measurement of periodic thickness variations in yarn, the yarn period analyzer, is described. Graphs. Diagrams. Tables. 5 references.

ABSORBENCY OF TERRY TOWELS. PART 1. EFFECT OF HOME LAUNDERING. B. G. Murphy and A. R. Macormac (Univ. of Alabama). Textile Research J. 28: 337-342 (Apr. 1958). (2518)

Samples from 11 undyed cotton terry towels, ranging from 9.7 to 14.8 oz/sq yd, were laundered up to 100 times in a household type washer. Their weights, maximum rates of absorption, and ultimate absorptions were determined after various numbers of laundering and drying cycles. Tables. Graphs. 9 references.

ART OF COSTUME. A. M. Buck. J. Soc. Dyers Colourists 74: 329-330 (May 1958). (2519)

An account of the trends of European fashion in clothes during the past few centuries.

DAMAGE DONE TO YARN BY THE COVERING OF THE SAND OR TAKEOFF ROLLER DURING WEAVING. G. J. vanLochem. Enka Breda Rayon Rev. 12: 15-23 (Mar. 1958). (2520)

The strength of yarn and cloth may be seriously impaired when filament yarns are woven on a loom having a sand roller covered with glass-paper or emery paper. Tables. Photomicrographs.

YARNS USED IN CARPET MANUFACTURE. A. Crossland. Textile Recorder 76: 60-61, 64 (June 1958). (2521)

The author deals with the various types of yarn used in carpet weaving (wool, Fibro, Fibrolane, Celafibre, nylon, acrylic fibers, and Courlene), and outlines recent trends and developments.

FINISHING AND CHEMICAL PROCESSING D

FINISHING OF FINE STOCKINGS. C. Heinrich. SVF Fachorgan Textilveredlung 12, No. 10: 650-658 (1957). In German. Through BCIRA 38: 21 (1958). (2522)

The individual processing stages (preboarding, dyeing, postboarding) are described, with reference to the Bellfour preboarder and dyeing and drying equipment. For seamless stockings, only the postboarding process is recommended to avoid the formation of two creases next to each other.

FINISHING OF KNITTED GOODS. E. Schwineköper. Melliand Textilber. (English ed.) 39, No. 2: 126-132 (1958). (2523)

The techniques used in the finishing (washing, bleaching, dyeing, boarding, and softening) of nylon and Perlon hosiery are summarized.

DYEING, PRINTING, AND FINISHING OF SYNTHETIC FIBERS. A. J. M. Verhulsdonck, N. O. Wolbers, and T. J. Lieven. Tex 16, No. 9: 1179-1210; No. 10: 1347-1376 (1957). In Dutch. Through BCIRA 38: 22 (1958). (2524)

This literature review covers the wet processing methods for the treatment of polyamide, polyacrylonitrile, and polyester fibers and fabrics. 28 references.

THERMODYNAMICS OF FABRIC DRYING AND STEAMING. A. Meier-Windhorst. Melliand Textilber. 38, No. 11: 1284-1288 (1957). In German. Through BCIRA 38: 59 (1958). (2525)

Three fundamental physical processes playing an important role during heat treatment alone, drying, and steaming of fabrics are examined: (1) the heat transfer from the treatment medium to the material to be treated; (2) change in the temperature of the material as a result of heat exchange or heat transfer; (3) exchange of moisture. From the results of this investigation, valuable conclusions are drawn for the practice, especially for the Rongalite-potash and the two-phase hydrosulfite printing processes, and the development of suitable steaming and fixing devices.

CONTINUOUS SETTING WITH SATURATED STEAM. F. Johann. Textil-Praxis 12, No. 10: 1010 (1957). In German. Through BCIRA 38: 25 (1958). (2526)

Reference is made to a recently developed continuous saturated steam setting machine, which operates in the same manner as the previous hot air setting machines but gives a better setting effect on nylon, Perlon, and Orlon fabrics.

CHEMICAL PROCESSES D 1

EFFECT OF SWELLING AGENT IN SHRINKPROOFING POLYAMIDE FIBERS. H. Rath and H. Groschopp. Textil-Praxis 12, No. 10: 1026-1031 (1957). In German. Through BCIRA 38: 25 (1958). (2527)

Setting experiments at room temperature with various swelling agents, especially phenol, on polyamide filaments are described, with reference to the dependence of the shrinking process upon fiber fineness, the role of the rinsing process, and length changes in the filament under various loads.

FURTHER IMPROVEMENTS IN CHEMICAL SHRINKPROOFING. R. Steidl. SVF Fachorgan Textilveredlung 12, No. 11: 698-703 (1957). In German. Through BCIRA 38: 57 (1958). (2528)

Experiments carried out to improve the wear value of chemically-shrunk industrial clothing material showed that optimum shrinkage values are obtained by using potato starch as filler in resin finishes. The potato starch is fixed by the resin permanently on the fiber and exhibits high fastness to boiling. Careful attention is to be paid to the optimum condensation conditions, which must be determined for each article, each resin, and the respective catalyst used.

USE AND IMPORTANCE OF SILICONES IN TEXTILE FINISHING. G. Hausschild. Z. ges. Textil-Ind. 59, No. 19: 822-827; No. 23: 985-990 (1957). In German. Through BCIRA 38: 122 (1958). (2529)

The preparation and structure of silicones are discussed and the general applicability of organic silicon compounds is outlined, with special reference to waterproofing of textiles, chemical constitution of the impregnating agents, their behavior during absorption, and their fixation on the fiber. Properties and effects of some important commercial products are reviewed and the technological behavior of the silicone-impregnated fabrics is described. 21 references.

STUDY OF VARIOUS APPLICATIONS OF SILICONE RESINS IN THE FINISHING OF TEXTILE FIBERS. M. Carru. Teintex 22, No. 12: 924-949 (1957). In French Through BCIRA 38: 153 (1958). (2530)

In this review, the author discusses the historical development of silicones and their use as stripping agents, lubricants and antifoaming agents, methods and apparatus for measuring the water-permeability of textiles, application of silicones in textile finishing, factors affecting the water repellency of fabrics treated with silicones, simultaneous silicone resin treatments, various combinations of silicones and other finishing agents, and the efficiency of various French (silicone) products.

SILICONE FINISHES ON TEXTILES. R. Nattrass. The Cobbler 10: 41-45 (1958). (2531)

SHRINK-RESISTANT FINISHES FOR COTTON AND WOOL TEXTILES. A. J. Hall. Textile Recorder 76: 71-73 (June 1958). (2532)

The use of acetals for shrinkproofing cotton and rayon fabrics (BP 780 043), and the use of polychloromethyl ethers of polyhydric alcohols for cellulose fabrics and wool (BP 783 382) are discussed in detail.

IMPREGNATION OF WATER REPELLENT FINISHES. H. Friedigkeit. Z. ges. Textil-Ind. 59, No. 22: 936-940 (1957). In German. Through BCIRA 38: 59 (1958). (2533)

Factors affecting the waterproofing results (nature of the material treated, its preparation and pretreatment, impregnating conditions, and inaccuracies in the testing methods) are investigated, with special reference to the Rotal process (use of Preska Permanent PAG as impregnating agent and Rotal Super 56 as textile assistant).

CONTINUOUS OPEN-WIDTH SCOURING OF WOOL CLOTH. F. Smith & Co. Ltd. Textile Recorder 76: 80 (June 1958). (2534)

Features of the Express washer, especially designed to permit a high degree of control over cloth speed, tension, and liquor temperature, are described. Photograph.

ACTION OF ALKALI DURING WASHING. W. Wondrak. Deut. Textiltech. 7, No. 10: 569-570 (1957). In German. Through BCIRA 38: 64 (1958). (2535)

The detergent action of alkalis and their effect on fiber strength and on bleeding during washing of colored articles are discussed.

MODERN JUTE MANUFACTURING PRACTICE: INSPECTING, TREATING, AND FINISHING WOVEN FABRICS. S. A. G. Caldwell. Textile Mfr. 84: 232-234 (May 1958). (2536)

Inspection of jute fabric to discover and remedy defects originating in manufacture is followed by a series of mechanical operations: cropping, damping, calendering, mangling, measuring, and lapping or folding. The function of each of these processes and the machines used are described. Diagrams. Photographs.

PHOSPHORUS COMPOUNDS FOR FLAMEPROOFING COTTON. R. Daubent. Industrie Textile: 913-914 (Dec. 1957). In French. Through BCIRA 38: 153 (1958). (2537)

Flameproofing treatments based on the use of phosphorous compounds are reviewed, with reference to the relevant patent literature.

IMPREGNATION AND FLAMEPROOFING WITH ETHYL SILICATES. H. Anders. Spinner u. Weber 75, No. 19: 1018 (1957). In German. Through BCIRA 38: 121 (1958). (2538)

Reference is made to the German Patents 128 253, 359 039, 553 514, and 574 548, in which silicic acid esters are used, respectively, for the impregnation of asbestos fiber (and articles produced from it), waterproofing and flameproofing of linen fabrics, paper, board and wood, stiffening and flameproofing of textiles, and production of protective clothing.

LAUNDERING OF WOVEN WOOL FABRICS IN A MODERN HOME WASHING MACHINE. H. Bogaty and H. E. Harris (Harris Research Labs.). Am. Dyestuff Reptr. 47: 369-371 (June 2, 1958). (2539)

Based on a study of the effects of variables in the laundering process, a wide variety of commercial wool fabrics was subjected to repeated washing by an optimum procedure. Even after 10 repeated cycles, over one-third of these fabrics exhibited shrinkages in area of 10% or less. Shrinkage of untreated wool fabrics could be decreased by reducing the washing time and the speed of the agitation and spinning merely by appropriate setting of the machine controls. Tables. 10 references.

BEHAVIOR OF DIFFERENTLY CONSTRUCTED TOWELS DURING LAUNDERING. J. Ilg. Textil-Praxis 12, No. 10: 998-1002 (1957). In German. Through BCIRA 38: 33 (1958). (2540)

Washing experiments and the effect of 100 launderings on tensile strength, abrasion resistance, degree of absorbability, and mean degree of polymerization of 16 different towel samples are described and the results are discussed and tabulated. No significant difference was found in the absorbability of the towels and the degree of depolymerization was the same in all towels from pure yarns. Name strips from 4-end twill were stronger than those from 5-end satin. The use of doubled and certain combinations of single yarns, respectively, as warp or warp and weft yarns gave no difference in the washability of the towels.

WET CREASEPROOFING OF FABRICS FROM REGENERATED CELLULOSE FIBERS AND COTTON. H. A. Wannow. SVF Fachorgan Textilveredlung 12, No. 12: 754-766 (1957). In German. Through BCIRA 38: 152 (1958). (2541)

Finishing of cellulosic textiles with hardenable resins is reviewed and factors affecting the wet crease resistance of cotton fabrics are discussed, with reference to the practical application of the wet creaseproofing process. It is shown that the method can also be applied in the case of made-up garments. Special testing methods for evaluating the creaseproofing effect are described. Reference is also made to the wet creaseproofing of fabrics from regenerated cellulose fibers.

YELLOWING OF VISCOSE RAYON ON WASHING. P. Rochas and L. Gavet. Bull. Inst. Textile France No. 69: 85-92 (Aug. 1957). In French. Through BCIRA 38: 127 (1958). (2542)

The behavior of viscose rayons altered by oxidation during mild, medium, and severe washing processes was studied and it was found that rayons containing aldehyde groups become yellow and show a considerable loss of tensile strength during normal or severe washing. Ketone groups are responsible for loss of strength without yellowing, while carboxyl groups have no effect. The degrees of whiteness obtained by industrial sodium chlorite bleaching are particularly stable during washing. This is explained by the fact that any aldehyde groups present in the rayon cellulose are destroyed by chlorite bleaching. Alkaline washing in an oxidizing medium (sodium perborate) causes no yellowing on oxycelluloses of the aldehyde type which become highly discolored if the washing liquor is alkaline (the same pH) but not oxidizing. Yellowed rayons can be restored to their original whiteness by a renewed oxidizing bleaching process.

DELUSTERING OF RAYON. H.-G. Jakob. Spinner u. Weber 75, No. 19: 1003-1004; No. 24: 1331-1333 (1957). In German. Through BCIRA 38: 121 (1958). (2543)

The most frequently used methods for delustering rayon are discussed and various post-delustering treatments are described. Special reference is made to the production of damask effects (matt prints) on rayon fabrics.

TENDERING OF CELLULOSE FIBERS BY HYPOCHLORITE. G. Voigtländer. Deut. Textiltech. 7, No. 10: 573-574 (1957). In German. Through BCIRA 38: 54 (1958). (2544)

Relationships between the pH value, redox potential, and rH values are discussed and it is shown that the bleaching and tendering action of hypochlorite liquors is a function of the rH value and hypochlorite concentration. Since the magnitude of both factors is determined by the pH value, it is, in practice, only necessary to adjust the pH and maintain it constant, while the measurement and calculation of the redox potentials and rH values, respectively, can be omitted.

REMOVABILITY OF ALGINATE SIZES. S. Marguier and R. Schutz. Bull. Inst. Textile France No. 68: 71-75 (June 1957). In French. Through BCIRA 38: 54 (1958). (2545)

Cotton yarns were sized in the laboratory with alginate and starch/alginate sizes, and then subjected to various chemical treatments, to render the alginate insoluble. Only in exceptional cases (impregnation with 1 g/l copper or iron salts, treatment at high temperature for several hours) was it impossible to remove the alginate by usual desizing treatments.

AUTOMATIC UNIT FOR THE CONTINUOUS MANUFACTURE OF SODIUM HYPOCHLORITE. D. S. Morton (Crompton-Shenandoah Co.). Am. Dyestuff Reptr. 47: 372-374 (June 2, 1958). (2546)

This paper describes an automatic sodium hypochlorite unit recently installed in the bleach house at Crompton-Shenandoah Company. The advantages of this new unit over the "batch system" of manufacture previously used are discussed. Diagrams. Photographs.

MECHANICAL PROPERTIES OF COTTON FIBERS AND THEIR RESPONSE TO MERCERIZATION. L. Rebenfeld (Textile Research Inst.). Textile Research J. 28: 462-466 (June 1958). (2547)

Fifty fibers from twelve widely different cottons were mercerized by a single fiber mercerization treatment at 0.1 g tension. The changes in the fiber extensibility properties brought about by this treatment were related to the degree of fibrillar orientation as estimated by the initial Young's modulus of elasticity. Although the fiber strength was increased by this treatment, no relationship was found between the magnitude of this increase and the degree of orientation. Three of the cottons were mercerized at several tension levels ranging from no tension to 1.0 g tension. The changes in fiber mechanical properties due to mercerization were found to be highly dependent upon the tension exerted on the fiber during the treatment. A tension of 0.1-0.2 g appears to be the proper restraining force to overcome the tendency of cotton fibers to shrink during mercerization. Graphs. Tables. 10 references.

HOW TO APPLY LATEX BACKING. A. Barg and M. Slone (Aldon Rug Mills). Modern Textiles Mag. 39: 54, 56, 59, 68 (June 1958). (2548)

The advantages of latex backing and the three most important methods of application (spray coating, kiss or roller coating, and top or floating-knife spreading) are described. Diagrams. Graphs. Photographs.

SYNTHETIC RESINS IN TEXTILE FINISHING. Textil-Rundschau 12, No. 9: 485-521 (1957). In German. Through BCIRA 38: 23 (1958). (2549)

This special number contains the following contributions to the problem: Theoretical and practical aspects of the use of resins for crease resistance, by J. T. Marsh, p. 485-494; Studies for the improvement of the crease and swelling properties of viscose fibers, by A. Geiger, p. 494-502; Evaluation of the resin distribution in textiles, with special reference to the urea-formaldehyde resins, by K. May and O. Rothe, p. 507-512; Chlorine uptake of cotton fabrics impregnated with resins, by W. Schefer, p. 512-521.

FABRIC TEMPERATURE MEASUREMENT WITH A RADIATION PYROMETER. B. B. Ritchey. Textile World 108: 89-93 (June 1958). (2550)

The radiation pyrometer has been adapted to sense and control the comparatively low temperatures that are used in heat-setting and resin-curing operations. The unit measures cloth temperatures without contact, can be set up to handle a variety of fabrics, and is not affected by differences in fabric color. The pyrometer system comprises three basic components: a low-range pyrometer unit, a reference-junction temperature controller, and a potentiometer. Operation of the system is described. Graphs. Diagram. Photograph.

PROBLEM OF STATIC IN HANDLING YARNS AND KNITTED FABRICS. Hosiery Times 31: 51-59 (Apr. 1958). (2551)

Following a discussion of the factors influencing static formation, various types of antistatic agents are described. It is pointed out that two of the major defects of many available agents is their deterioration on storage and their lack of washfastness.

SIXTH CHEMICAL FINISHING CONFERENCE. Washington, D. C., October 2, 3, 1957. National Cotton Council of America, Utilization Research Div., 1832 M Street, N. W., Washington 6, D. C. 1958. 82 p. Free. (2552)

Conference papers are reprinted from the Textile Research Journal.

RESIN APPLICATION TO A 2/3 COTTON-1/3 RAYON BLEND FABRIC. J. A. Woodruff. Modern Textiles Mag. 39: 80-84 (June 1958). (2553)

Data on the physical properties and wash-and-wear performance of 20 resin treated fabrics are presented. Graphs.

PERFUMES IN THE TEXTILE AND LAUNDERING INDUSTRIES. K. Bergwein. SVF Fachorgan Textilveredlung 12, No. 10: 665-667 (1957). In German. Through BCIRA 38: 24 (1958). (2554)

Incorporation of aromatic substances into finishing agents to be applied to textiles in order to increase their usage value, impregnation of fabrics with sanitizing agents and deodorants, and the use of perfumes in laundering and drycleaning are discussed, with special reference to the Dragotex products (Dragoco GmbH).

REVIEW OF RECENT DEVELOPMENTS IN FINISHING. Textile Weekly 58(1): 1114-1115 (Apr. 18, 1958). (2555)

The following developments of interest to the finisher are discussed: new antigas fading agents for aminoanthraquinone dyes (BP 780 764); the effects of various types of discoloration in cotton on subsequent processing (abstr. 2729/57); a leveling agent for use under acid conditions with premetalized dyes (BP 784 664); and the use of an organic amine to prevent strength loss in polyamide fibers during peroxide bleaching (BP 784 911).

BETTER, FASTER HOSIERY FINISHING. Turbo Mach. Co. Modern Textiles Mag. 39: 63-64 (June 1958). (2556)

The Turbo-Brewin machine automatically combines preboarding, dyeing, and finish-boarding in one operation, thus eliminating much of the handling that stockings ordinarily receive after leaving the examiner. Its operation is described.

OPTICAL BRIGHTENING AGENTS: THEORY AND PRACTICE. J. Dostmann. Deut. Textiltech. 7, No. 10: 575-578 (1957). In German. Through BCIRA 38: 54 (1958). (2557)

The development of optical brightening agents is reviewed, and theoretical problems, properties and potential uses, advantages and disadvantages, and limitations of their application are discussed. Methods for measuring the fluorescence of brighteners and for the evaluation of the results are described. 17 references.

BLEACHING AUTOMATION. W. O. Bozeman, Jr. Textile Inds. 122: 143-144 (June 1958). (2558)

An automatic control system for a combined rope and open-width continuous bleaching range is described.

CONTINUOUS BLEACHING OF COTTON FABRICS. Textile Mfr. 84: 207 (Apr. 1958). (2559)

A new bleaching process (BP 789 585) is based on the idea of combining an alkali-boil with a hydrogen peroxide bleach into one treatment which can be carried out while the fabric runs continuously through apparatus especially designed for this purpose. The fabric is padded initially with both caustic soda and hydrogen peroxide so as to require treatment in only one J-box before being washed off and left a good white. Details of the process are given.

APPLICATIONS OF THE DUNGLER CHLORITE BLEACHING SYSTEM. J. Strzoda. Melliand Textilber. (English ed.) 39, No. 2: 116-122 (1958). (2560)

The operation, advantages, and potential applications of the Dungler system, using superheated steam, in the treatment of cotton and manmade fibers are discussed. Graphs. Photograph. Diagrams.

BLEACHING AND MERCERIZING COTTON/RAYON 80 x 80 CLOTH. T. R. Scott, Jr. Modern Textiles Mag. 39: 75-79, 84 (June 1958). (2561)

This paper describes results obtained when an 80 square cotton/rayon blend fabric was prepared for resin finishing, using scouring, bleaching, and mercerizing procedures applicable on equipment available in most cotton bleacheries. This discussion is limited to the preparation of gray fabrics prior to resin finishing. Tables. 7 references.

DEVELOPMENTS IN THE FIELD OF BLEACHING AND MERCERIZING MACHINES. K. H. Bönkost. Tex 16, No. 10: 1340-1345 (1957). In Dutch. Through BCIRA 38: 20 (1958). (2562)

Various constructions of rope-washing and -impregnating machines, J-boxes, and mercerizing machines are described and illustrated.

REACTION OF FORMALDEHYDE WITH WOOL AND ITS EFFECT ON DIGESTION BY INSECTS. J. R. McPhee (Wool Textile Research Labs., Australia). Textile Research J. 28: 303-314 (Apr. 1958). (2563)

Formaldehyde at pH 12 combines with at least 95% of the indole, 55% of the primary amide, 45% of the guanidyl, and 40% of the primary amino groups of wool in 30 min at room temperature. Wool treated in this way is resistant to attack from newly hatched and fully active larvae of the clothes moth and from newly hatched but not fully active larvae of the furniture carpet beetle. Possible mechanisms for this effect are discussed. The treated wool shows increased resistance to alkali, acid, thioglycollate, trypsin, and soil microorganisms, but the appearance, felting shrinkage, bursting strength, abrasion resistance, and yarn strength are unaltered. Graphs. Tables. 39 references.

DYEING AND PRINTING D 2

TEXTILE PRINTING. R. J. Hannay. The Cobbler 9: 43-48 (1957). (2564)

A lecture surveying some of the principal factors and processes involved in textile printing.

POTENTIAL ALKALINITY OF DYEHOUSE WATER. J. Walton. Reply: R. W. Richardson. (Letters to the editor). J. Soc. Dyers Colourists 74: 422 (May 1958). (2565)

CALENDERS IN THE TEXTILE INDUSTRY. G. Harzendorf. Deut. Textiltech. 7, No. 11: 611-612 (1957). In German. Through BCIRA 38: 95 (1958). (2566)

The correct use of calenders in the finishing of certain textile fabrics is shown to be decisive for the type and quality of the effects: mainly, luster, density, and handle of the fabric. Various potential uses of the known types of calender and the effects obtained are reviewed.

PIGMENT DYES. A. Pradon. Revue Textile 56, No. 7: 443-446 (1957). In French. Through BCIRA 38: 22 (1958). (2567)

The historical development of pigment dyes is reviewed, with reference to inorganic and organic pigments and their uses.

PIGMENT DYES IN PRINTING. K. Niepraschk. Deut. Textiltech. 7, No. 11: 616-617 (1957). In German. Through BCIRA 38: 93 (1958). (2568)

Pigment printing processes developed by the West German dye manufacturers are reviewed, and the preparation of emulsion thickenings, the advantages of the pigment printing processes and combination possibilities with other dye groups are described, with reference to experiences gained in machine and screen printing.

PRINCIPLES OF PIGMENT PRINTING, WITH SPECIAL REFERENCE TO THE IMPERON PROCESS. S. Matthes. Deut. Textiltech. 7, No. 11: 618-620 (1957). In German. Through BCIRA 38: 93 (1958). (2569)

The method of pigment fixing by means of resins is discussed, and the Imperon process is explained by an example. The Imperon dyes (Farbwerke Hoechst AG) are pastes of medium viscosity which are prepared from high quality pigments and a resin. The Imperon binder is an aqueous-ammoniacal resin solution which can be also used as emulsion-concentrate. The emulsion thickener in the Imperon process is of the type of an oil-in-water emulsion. Fixing of the Imperon dyes is obtained by acid or neutral steaming for 5-7 min. Advantages and applicability of the pigment printing method are pointed out.

STENCIL PREPARATION BY DOUBLE EXPOSURE. R. Künzl. Textil-Praxis 12, No. 10: 1012-1013 (1957). In German. Through BCIRA 38: 23 (1958). (2570)

The process described consists in the use, for the respective pattern, of a single stencil which was exposed twice by means of two different diapositives. Patterns suitable for this process are discussed and illustrated.

AZOIC INSOLUBLE DYES IN PRINTING. D. Marian (Compagnie Francaise des Matieres Colorantes). Am. Dyestuff Reptr. 47: P384-P388 (June 2, 1958). (2571)

The history and the application of azoic insoluble dyes in printing.

QUATERNARY AMMONIUM COMPOUNDS FOR THE DISCHARGE OF VAT DYEINGS. J. Billoux. Industrie Textile: 906-907 (Dec. 1957). In French. Through BCIRA 38: 151 (1958). (2572)

The discharge of vat dyeings presents difficulties in that the leuco derivative formed by reduction is rapidly reoxidized in contact with air. This can be avoided by adding to the discharge paste a suitable benzylation agent forming with the leuco compound a benzyl ether which is stable to air. The use of two such agents is described: Leucotrope O and Leucotrope W. Suitable compositions are mentioned.

MACHINE AND SCREEN PRINTING OF POLYAMIDE FABRICS. W.-D. Köhler. Deut. Textiltech. 7, No. 11: 613-615 (1957). In German. Through BCIRA 38: 94 (1958). (2573)

The present state and importance of the printing procedure, properties of the polyamide fabric, and conditions and method of carrying out the printing process are discussed, with reference to precleaning the gray material, fixing, choice of dyes, and solvent combinations.

PRINTING OF COTTON FABRICS FAST TO CROCKING. M. G. Kachurin. Tekstil. Prom. 17, No. 8: 11-14 (1957). In Russian. Through BCIRA 38: 23 (1958). (2574)

The composition of the impregnating bath (containing melamine-formaldehyde precondensate), apparatus, and technological conditions are described for the process which is claimed to ensure sharpness of the relief pattern, fastness of the print to crocking, and maximum strength retention of the printed fabric.

FLASH-AGING OF VAT-PRINTED VISCOSE RAYON FABRICS. A. S. Fern and W. F. Liquorice (Imp. Chem. Inds. Ltd). J. Soc. Dyers Colourists 74: 331-344 (May 1958). (2575)

The evolution of pad-steam processes for fixing printed vat dyes on cellulosic fabrics is traced. The behavior of a wide range of vat dyes under laboratory flash-aging conditions with a hydrosulfite caustic soda reducing system indicated the most satisfactory thickening agent, dyes, and padding and steaming conditions, and led to the design of a bulk-scale steamer operating at about 7 yd/min with a steaming time of about 20 sec. Diagrams. Tables. Photograph. 19 references.

PRINTING TRIACETATE WITH INDIGOSOLS. P. Diserens. Dyer 119: 787-791 (May 23, 1958). (2576)

The results of a systematic search to find a suitable carrier to enhance the fixation of Indigosol dyes on triacetate fabrics are reported. Among the numerous compounds investigated, the halogenated alkylphenols were found to produce bright, deep, and fast prints on cellulose triacetate or on certain mixed fabrics containing this fiber.

DEORLENE DYES FOR PRINTING ON NYLON FABRICS: METHOD. E. Meier. Ciba Rev. 11: 38 (Mar. 1958). (2577)

PRINTING CIBALAN DYES ON ORLON 42: METHOD. E. Meier. Ciba Rev. 11: 38 (Mar. 1958). (2578)

WHITE DISCHARGE PRINTING OF DYEINGS ON SYNTHETIC FABRICS: METHOD. H. Werdenberg. Ciba Rev. 11: 39 (Mar. 1958). (2579)

PRINTING WITH CIBACRON DYES ON CHLORINATED WOOL, WOOL/CELLULOSIC FIBER UNIONS, AND SILK. Ciba Ltd. Ciba Rev. 11: 40-42 (Mar. 1958). (2580)

Printing recipes, procedures, and fastness tables are given.

TWO-STAGE PRINTING OF CIBA AND CIBANONE DYES. G. Kögel. Ciba Rev. 11: 34-36 (Mar. 1958). (2581)

The method consists basically of applying a prepared vat color containing thickener but no alkali or reducing agent to the goods and then drying. After storage for any period, the goods are impregnated with an alkaline liquor containing a reducing agent. The vat color is fixed by steaming--usually without intermediate drying. Only the leading features of the two-stage process are discussed in this article.

ROLLER PRINTING. A. Franken. Ciba Rev. 11: 2-32 (Mar. 1958). (2582)

Technical advances in roller printing, p. 2-14; Printing colors, p. 15-20; Mechanical problems and roller engraving, p. 21-29; Coloristic problems of a chemical nature, p. 30-31. Photographs. 36 references.

REDOX TITRATION CURVES OF VAT DYES: A CHARACTERISTIC OF THEIR DYEING PROPERTIES. S. Hafenrichter. Melliand Textilber. 38, No. 11: 1257-1263 (1957). In German. Through BCIRA 38: 56 (1958). (2583)

Factors affecting the redox titration curve (changes in the lye concentration, dyeing temperature, electrolyte concentration in the dyebath, etc.) are discussed and it is shown by examples that the dyeing properties of vat dyes can be influenced by the introduction of various substituents; this effect is expressed in the course of the redox curve. 22 references.

ADSORPTION OF A REACTIVE DYE BY MODIFIED CELLULOSES. E. H. Daruwalla and P. Subramaniam (Univ. of Bombay). J. Soc. Dyers Colourists 74: 296-299 (Apr. 1958). (2584)

The equilibrium adsorption of commercial Procion Brilliant Red 2BS by acid-modified cellulosic fibers and by standard cellulose altered by the specific action of different oxidizing agents is studied to determine changes in dye adsorption with changes in the accessible hydroxyl groups present in the fiber substance. Table. Graphs. 10 references.

LEVEL DYEING WITH AFTERCHROME DYES. I. D. Rattee. The Cobbler 9: 49-58 (1957). (2585)

CHEMISTRY OF ESTERS OF LEUCO VAT DYES. PART 3. OXIDATION OF THE MONO- AND DI-SULFURIC ESTERS OF QUINOL (HYDROQUINONE) AND OF 1:4-NAPHTHAQUINOL WITH ACIDIC HYDROGEN PEROXIDE. A. Johnson and M. L. Rahman (Manchester Coll.). J. Soc. Dyers Colourists 74: 291-296 (Apr. 1958). (2586)

STUDIES ON AMINOANTHRAQUINONE COMPOUNDS. PART 1. ABSORPTION SPECTRA IN SOLUTION AND IN THE SOLID STATE. G. S. Egerton and A. G. Roach (Univ. of Manchester). J. Soc. Dyers Colourists 74: 401-407 (May 1958). (2587)

The ultraviolet and visible absorption spectra of six aminoanthraquinones were determined in solution, on polymer films, and as solid deposits on quartz. The effect of the solvent or substrate on the absorption spectrum and the problem of color and chemical constitution in relation to the aminoanthraquinones are discussed. Tables. Graphs. 14 references.

STUDIES ON AMINOANTHRAQUINONE COMPOUNDS. PART 2. PHOTOCHEMISTRY OF DYED POLYMER FILMS. G. S. Egerton and A. G. Roach. J. Soc. Dyers Colourists 74: 408-414 (May 1958). (2588)

A study was made of the action of near ultraviolet radiation and visible light on transparent polymer films of cellulose acetate, nylon, and N-methoxymethylnylon dyed with six aminoanthraquinones. The reaction was followed spectrophotometrically in a closed system of dry nitrogen or oxygen. Graphs. Tables. 13 references.

STUDIES ON AMINOANTHRAQUINONE COMPOUNDS. PART 3. PHOTOCHEMISTRY IN THE SOLID STATE. G. S. Egerton and A. G. Roach. J. Soc. Dyers Colourists 74: 415-420 (May 1958). (2589)

Solid transparent films on quartz of six aminoanthraquinone compounds were prepared by vacuum deposition. The action of (1) near ultraviolet radiation and visible light and (2) short-wave ultraviolet radiation on these solid films was studied spectrophotometrically. Tables. Graphs. 11 references.

NEW DYES. P. A. Simigin and M. Z. Tangiyan. Tekstil. Prom. 17, No. 8: 32-34 (1957). In Russian. Through BCIRA 38: 22 (1958). (2590)

Twenty-six new vat and direct dyes were tested in the Soviet Central Cotton Research Institute and their properties (fastness to light, light and weather, water, soap solution, perspiration, ironing, rubbing, etc.) were evaluated. The results are tabulated.

SULFUR DYES AND MODERN FINISHES. G. H. Binns (James Robinson & Co. Ltd). Textile J. Australia 33: 172-175 (Apr. 21, 1958). (2591)

The effects on shade and fastness of sulfur dyes of creaseproofing with urea formaldehyde, methylol melamine formaldehyde, and Zeset resin, of Velan waterproofing, and of Proban or THPC flameproofing are discussed.

DYEING POLYESTER FABRICS. K. Neufang. Skinner's Silk & Rayon Record 32: 639-640 (June 1958). (2592)

The reasons for the difficulties in dyeing polyester fibers are explained, and a practical method for dyeing polyester piece goods with disperse dyes is described.

CHROME DYEING AND ITS EFFECT ON WOOL. R. V. Peryman. The Cobbler 10: 34-37 (1958). (2593)

REMAZOL DYESTUFFS. O. Ziegler. Melliand Textilber. (English ed.) 39, No. 2: 114, 116 (1958). (2594)

The Remazol dyes (Farbwerke Hoechst AG), like the Cibacron and Procion dyes, can be applied by greatly simplified processes and yield brilliant shades of good fastness on cotton and regenerated cellulose fibers. Swatches.

NEW METHOD FOR DYEING ACRYLIC FIBERS. J. Khachoyan and J. P. Niederhauser. Teintex 22, No. 12: 909-923 (1957). In French. Through BCIRA 38: 150 (1958). (2595)

Methods for dyeing acrylic fibers are briefly reviewed and a process is described, which consists in dyeing the acrylic fiber for 1/2-1 hr at 120-130° C in a bath containing the dye and 1-10 g/l hydroxylamine sulfate or 1-10% calculated on the fiber weight, according to whether the liquor ratio is 1:10 or 1:20 and depending upon the dye used. After dyeing, the fiber is rinsed, soaped at 60° C, rinsed again and dried. The method makes it possible to apply to acrylic fibers a great number of different dye classes (metalliferous dyes, direct, and acid dyes). The advantages claimed comprise improved yield, homogeneous penetration, and diffusion of the dye into the fiber, and decreased electrostatic charge.

DYEING OF NYLON WITH ACID AND MORDANT DYES AT HIGH TEMPERATURES. H. R. Hadfield and H. Seaman (Imp. Chem. Inds. Ltd). J. Soc. Dyers Colourists 74: 392-400 (May 1958). (2596)

A study has been made of the stability of acid and chrome dyes in solution at temperatures above 100° C. The effects of an increase in dyeing temperature above 100° C on the leveling of acid dyes and upon the rate of chroming of chrome dyes have also been determined. The results emphasize the importance of controlling the exhaustion of the dyebath during the dyeing of nylon and confirm the rapid rate of chroming above 100° C. Tables. Graphs. 12 references.

DEVELOPMENTS IN DYEING DRALON ACRYLONITRILE FIBER AND ITS BLENDS. A. Würz. Reyon, Zellwolle u. Chemiefasern No. 10: 712-717 (1957). In German. Through BCIRA 38: 57 (1958). (2597)

The new Basacryl dyes, recommended for dyeing acrylonitrile fibers (flocks), yarns (hanks or cheeses) and fabrics, are easily soluble in hot aqueous solutions adjusted to pH 2-5, have excellent fastness properties, are simple to use, and can be easily combined with each other to give the desired shade. Addition of Glauber salt promotes levelness of the dyeings. Directions are given for the application of these dyes to Dralon and to Dralon/wool, Dralon/Perlon, and Dralon/cellulose blends, as well as for precleaning the material and dyeing with dispersed acetate dyes.

REACTIVE DYESTUFFS IN THE DYEING OF CELLULOSIC TEXTILES. M. R. Fox. Am. Dyestuff Reptr. 47: P413-P417 (June 16, 1958). (2598)

The principles underlying the application of a new class of cellulose reactive dyes are outlined. Details are given of the large variety of practical dyeing methods which can be employed with the Procion dyestuffs and the individual properties of these dyes are described. 10 references.

APPLICATION OF REACTIVE DYES TO VISCOSE RAYON. J. A. Fowler and C. Preston (Imp. Chem. Inds. Ltd). J. Soc. Dyers Colourists 74: 372-381 (May 1958). (2599)

Reactive dyes of the Procion type offer a versatile dyeing system for producing dyeings of attractive color and good fastness to washing. Since the Procion system is based on a simple chemical reaction with the fiber, it is capable of variation in easily controlled and readily understood ways. The rate of the fixation reaction can be made to vary from slow at room temperature and mild alkalinity to rapid at high temperature or high alkalinity, intermediate rates being achievable at will by controlling various simple factors. Choice of method of dyeing is therefore wide and will depend largely on the particular equipment readily available. Graphs. Tables.

COLORING OF VINYLON. S. Nomura and K. Tanabe (Kurashiki Rayon Co. Ltd). J. Soc. Dyers Colourists 74: 359-371 (May 1958). (2600)

As both hydroxyl and acetal groups in the accessible region are concerned in the dyeing of vinylon, it is generally intermediate in dyeing behavior between cellulosic fibers and typical synthetic fibers. The dyeing properties of vinylon with direct dyes are thus affected not only by crystallization due to heat-treatment and degree of acetalization but also by the acetalizing conditions. For the practical dyeing of vinylon to medium or heavy depths direct, sulfur, vat, azoic, disperse, and metal-complex dyes may be employed, and their fastness is not greatly different from their corresponding fastness on other fibers. Dope dyeing is now most advantageous for blacks and dark blues, and is carried out on a commercial scale. Tables. Graphs. 14 references.

SOME ASPECTS OF CELLULOSE REACTIVE DYES AND PRACTICAL EXPERIENCE IN THEIR APPLICATION. F. Schlaeppi (Ciba Co.). Am. Dyestuff Reptr. 47: P377-P383 (June 2, 1958). (2601)

The fundamental principle of these new dyes and their chemical and physical behavior are explained. The main part of the paper is based on the author's practical experience with Cibacron dyes. Procedures for pad and exhaust dyeing, the different methods of fixation, and direct, discharge, and resist printing are also described.

BEHAVIOR OF REACTIVE DYES ON WOOL. F. Manchester. (Letter to the editor). J. Soc. Dyers Colourists 74: 421-422 (May 1958). (2602)

Results of experiments on the application of three Procion and three Cibacron dyes to chlorinated and unchlorinated yarn are reported. Graph. Table. 4 references.

DYEING POLYACRYLONITRILE FIBERS. H. U. Schmidlin and H. Stern. Spinner u. Weber 75, No. 23: 1276-1280 (1957). In German (English translation). Through BCIRA 38: 121 (1958). (2603)

Directions are given for the pretreatment (cleaning, thermosetting, bleaching, brightening), dyeing (with Deorlin and Cibacet dyes), and softening of polyacrylonitrile fibers (in flock form, on bobbins, in hanks, as piece goods, or as finished fabric).

HIGH TEMPERATURE DYEING OF TERYLENE SLUBBING OR LOOSE STOCK. F. Smith. J. Soc. Dyers Colourists 74: 382-387 (May 1958). (2604)

Practical aspects of the operation of machines designed for dyeing loose fibers at temperatures above the boil are discussed, special stress being laid on safety precautions. Photographs. Diagrams. 3 references.

HIGH TEMPERATURE DISPERSE DYEING OF TERYLENE POLYESTER FIBER. H. R. Hadfield and R. Broadhurst (Imp. Chem. Inds. Ltd). J. Soc. Dyers Colourists 74: 387-390 (May 1958). (2605)

The building-up and the leveling properties on Terylene of a fast and a slowly diffusing disperse dye have been compared over the temperature range 85-140° C. Both properties improve rapidly as the temperature of the dyebath is raised above 100° C. Optimum dyeing conditions are attained between 120° and 130° C, and optimum leveling conditions between 130° and 140° C. Under high temperature dyeing conditions the slowly diffusing dye gives the better dyebath exhaustion and the rapidly diffusing dye has the better leveling properties. Graphs. 6 references.

PRACTICAL ADVANTAGES OF A pH MEASURING STATION IN THE DYEHOUSE. R. Graeub. Melliand Textilber. (English ed.) 39, No. 2: 122-126 (1958). (2606)

A simple and accurate control of pH of the treating baths is essential to ensure satisfactory results on levelness, conformity to pattern, fastness, finishing, and quality of the treated goods. The possibility of measuring the redox potential at the same time is pointed out. Twenty-six references to articles on applications and theory of pH and redox measurements are included.

DYEING OF WOOL WITH 2:1 METAL COMPLEX DYES. H. Egli and E. Walther. Melliand Textilber. (English ed.) 39, No. 2: 138-142 (1958). (2607)

The effect of Lyogen SMK on the dyeing behavior of Lanasyn colors, a range belonging to the 2:1 metal complex dyes, is illustrated by means of time temperature curves.

EFFECT OF pH IN THE BATCHWISE DYEING OF PROCION DYESTUFFS. A. M. Wooler. Hexagon Dig. 26: 3-15 (Mar. 1958). (2608)

A quantitative study of the batchwise application of Procion dyes to cellulose fibers has shown that the reactivity of the various dyestuffs is significantly influenced by the pH of the dye liquor, and for each dyestuff there is an optimum pH, depending on the type of cellulosic fiber, on the temperature, and on the length of time of dyeing. The influence of pH and the other variables (temperature, time, salt concentration, dye concentration, type of alkali) is discussed in detail. Graphs. Tables.

COMPARATIVE STUDY OF THE AFFINITY OF DIRECT AZO DYES (DERIVATIVES OF DIPHENYL AND PARA-TERPHENYL) FOR COTTON FIBERS. B. M. Krasovitskii, P. V. Moryganov, N. I. Titarenko, and B. N. Melnikov. Dokl. Akad. Nauk S. S. S. R. 116, No. 3: 425-428 (1957). In Russian. Summary in BCIRA 38: 56 (1958). (2609)

PETER GRIESS, 1829-1888: THE DIAZO CENTENARY. M. Schofield. Dyer 119: 751-753 (May 23, 1958). (2610)

The work of Peter Griess in developing the diazo compounds, thus laying the foundation on which the azo dyes are built, is reviewed.

METHOD FOR PAD-STEAM DYEING ON POLYAMIDE FIBER FABRICS WITH CHLORANTINE FAST, DIRECT, ACID WOOL, NEOLAN, AND CIBALAN DYES. E. Meier. Ciba Rev. 11: 37 (Mar. 1958). (2611)

APPLICATION OF VAT DYES TO ACETATE FIBERS. B. C. M. Dorset. Textile Mfr. 84: 252-256 (May 1958). (2612)

A number of patented vat dyeing techniques are described.

DYEING PROPERTIES OF MATURE AND IMMATURE COTTON. N.-B. Furvik (Swedish Inst. for Textile Research). J. Soc. Dyers Colourists 74: 299-303 (Apr. 1958). (2613)

Laboratory dyeing experiments, carried out with direct dyes on immature and mature cotton fibers of known origin, showed that the maturity did not affect the amount of dye absorbed at equilibrium. The absorption and desorption rates, however, were higher for immature than for mature fibers. Mercerization of the fibers before dyeing did not greatly affect the differences. The causes of why immature fibers in general and especially in neps look lighter in color than the rest of the fabric are discussed. A theory is put forward that, besides the effect of optical differences, the differences in depth are caused by the more rapid desorption of dye from immature fibers. Such differences would be exaggerated by unsuitable processing conditions, e.g. during rinsing, which was confirmed by some laboratory dyeings on fabric samples. From the results, it is predicted that, in order to obtain an even color on a fabric containing immature as well as mature fibers, dyeing should not be carried on until equilibrium is reached and that rinsing and aftertreatments should be carried out so that the dye desorption will be as small as possible. Tables. Diagram. Graphs. 13 references.

INVESTIGATIONS INTO THE DYEING OF CONTINUOUS-FILAMENT NYLON WITH DISPERSE AND ANIONIC DYES. H. W. Peters and J. C. Turner (Brit. Nylon Spinners Ltd). J. Soc. Dyers Colourists 74: 252-282 (Apr. 1958). (2614)

The nature of the variations in continuous-filament nylon and their influence on dyeing behavior are explained. By the use of a special fabric containing yarn differing in physical and chemical properties by known and controlled amounts, the sensitivities to such variations of many dyes for nylon have been assessed. Tables.

PAD-STEAM DYEING WITH MICRODISPERSE CIBANONE DYES. M. Peter and P. Ulrich. Textil-Praxis 12, No. 11: 1141 (1957). In German. Through BCIRA 38: 92 (1958). (2615)

It is shown that, by using microdisperse Cibanone dyes, the optimum steaming period ranges from 15-40 sec. Longer periods are a disadvantage.

DYEING HYDROPHOBIC FIBERS IN SOLUTIONS OF SOLVENTS. M. K. Gokhale, L. Peters, and C. B. Stevens. J. Soc. Dyers Colourists 74: 236-241 (Apr. 1958). (2616)

Since aliphatic alcohols assist the dyeing of wool and silk at relatively low temperatures, their effect on the dyeing of cellulose triacetate was investigated. Data are presented concerning the rate of dyeing of cellulose triacetate loose staple fiber with 3% Duranol Red X3B 300 from aqueous solutions of n-butanol or benzyl alcohol. Graphs. Tables. 4 references.

PROBLEMS OF THE WOOL DYER. D. L. Turner. The Cobbler 9: 16-25 (1957). (2617)

Causes and remedies for dyeing faults and wool fabric defects. Many faults blamed on the dyeing operation have entirely different origins.

DYEING OF TERYLENE AND TERYLENE UNIONS. J. G. Graham. The Cobbler 9: 32-35 (1957). (2618)

SOME PRACTICAL ASPECTS OF THE HIGH TEMPERATURE DYEING OF CONTINUOUS FILAMENT YARNS OF MANMADE FIBERS. J. Fowler and K. Walsh. J. Soc. Dyers Colourists 74: 390-392 (May 1958). (2619)

The theoretical advantages of high temperature dyeing are now generally recognized. Some of the practical aspects and the problems encountered are discussed on the basis of several years' experience in this specialized field.

WET TREATMENT AND DYEING OF SLIDE FASTENER TAPES. H. W. Partridge. Textile Mfr. 84: 257 (May 1958). (2620)

RECENT DEVELOPMENTS IN DYEING TEXTILES. B. C. M. Dorset. Textile Mfr. 84: 202-206 (Apr. 1958). (2621)

This brief review of some recent developments includes: an accelerated high temperature dyeing process requiring no special equipment (BP 784 394); improved binders for pigment printing (BP 784 946 and 784 880); factors influencing dye absorption by hydrophobic fibers (abstr 1311/58); premetalized dyes for neutral dyeing of wool and polyamide fibers (BP 784 138); method for the use of water-soluble anthraquinone dyes for hydrophobic fibers (BP 784 668); and a one-bath level dyeing process for acrylic/cellulose blends (BP 784 191).

CONTINUOUS PIECE DYEING WITH NAPHTHOL AS COMBINATIONS, WITH REFERENCE TO THE PRODUCTION OF DISCHARGE GROUNDS FOR TEXTILE PRINTING. PART 2. H. Keil. Textil-Praxis 12, No. 11: 1134-1137 (1957). In German. Through BCIRA 38: 93 (1958). (2622)

The author reviews naphthols and fast bases, fast dye salts suitable for use in continuous piece dyeing, and discusses the dischargeability of Naphthol AS combinations.

MODERN TRENDS IN DYEING MACHINES. J. A. D. Hall. The Cobbler 9: 26-31 (1957). (2623)

HOW DIRECT COLORS DYE CELLULOSIC FIBERS. J. Boulton. Textile World 108: 96-97 (June 1958). (2624)

The present theories on the quantitative relationships between dye adsorption, dye concentration, electrolyte addition, and temperature are outlined.

HIGH TEMPERATURE DYEING OF LOOSE STOCK. Longclose Eng. Co. Ltd. Man-Made Textiles 35: 74 (June 1958). (2625)

Three basic models of conical pan machines provide for operation at temperatures not exceeding 100° C; for operation up to 110° C for dyeing wool blends; and for operation up to 130° C for full high-temperature dyeing of cellulosic or synthetic fibers. Photograph. Diagram.

CHANGES IN VAT DYE SYSTEMS. G. S. Egerton and F. Galil (Univ. of Manchester). (Letter to the editor). Nature 181: 1399-1400 (May 17, 1958). (2626)

When certain vat dyeings on textile substrates are given an aftertreatment, such as boiling in water or dilute soap solution, there is a change in the color of the dyeing. When changes of this kind occur with dyed Cellophane the absorption spectrum becomes very similar after treatment to that of the corresponding solid-dye film on quartz. The authors conclude that the difficulty of removing these dyes by washing from the textile material in normal use presumably arises from the large size of the dye molecules and aggregates and the small size of the pores in the textile material, rather than in any bond between the dye and fiber. 5 references.

SOME OBSERVATIONS ON THE DYEING OF NYLON WITH MIXTURES OF ACID DYES. E. Atherton, D. A. Downey, and R. H. Peters. J. Soc. Dyers Colourists 74: 242-251 (Apr. 1958). (2627)

The object of the present paper is to consider in some detail the factors which determine compatibility of acid dyes in binary mixtures and to show that it is possible to define a compatibility index which will represent the ability of a particular dye to compete with other dyes for uptake by nylon. Tables. Graphs. Diagram. 11 references.

MODE OF ACTION OF NONIONIC LEVELING AGENTS. W. Luck. J. Soc. Dyers Colourists 74: 221-235 (Apr. 1958). (2628)

The interrelationships of the processes which play a part in producing a good dyeing are examined and it is pointed out that successful results in dyeing depend on a series of simultaneous equilibria. The formation of micelles by nonionic leveling agents is demonstrated spectroscopically, and the equilibrium conditions in the formation of complexes between dyes and leveling-agent micelles are studied. Graphs. Tables. 36 references.

MECHANICAL PROCESSES D 3

TROUGH CALENDERS. R. Berneiser and M. Scholz. Deut. Textiltech. 7, No. 10: 571-572 (1957). In German. Through BCIRA 38: 58 (1958). (2629)

The mechanism of trough calenders is discussed and their efficiency compared with roller calenders.

AUTOMATION IN THE WADDING INDUSTRY. B. Proessl. Melliand Textilber. (English ed.) 39, No. 2: 72-79 (1958). (2630)

Features and operation of automatic cross folders, cross cutters, and longitudinal cutters used in the manufacture of wadding are described.

AUTOMATIC SELVAGE-STRAIGHTENING DEVICE. S. M. Shleimovich. Tekstil. Prom. 17, No. 8: 47-48 (1957). In Russian. Through BCIRA 38: 24 (1958). (2631)

The mechanism of the device is described and illustrated, and the circuit diagram is given and explained.

EVOLUTION IN FINISHING TECHNIQUES. PART 2. MACHINES FOR DEVELOPING THE FINISH. F. Wood. Man-Made Textiles 35: 66-68 (June 1958). (2632)

The features, operation, and function of tentering machines and calenders (Schreiner and embossing) in developing finishes are described. Diagrams.

DRYING D 4

CLOSED-SYSTEM DRYER FOR LARGE PACKAGES. Textile Inds. 122: 88-89 (June 1958). (2633)

Features and operation of the Avesta dryer are briefly described.

MULTIPLE STAGE NOZZLE DRYER. E. Reihl. Melliand Textilber. (English ed.) 39, No. 2: 132 (1958). (2634)

The advantages and operation of the machine are described. Photograph.

HEAT INSULATION OF DRYERS. R. Bockstael. Rayonne et Fibres Synthet. 13, No. 11: 1395-1402 (1957). In French. Through BCIRA 38: 95 (1958). (2635)

Effect of insulation on the steam consumption of dryers is examined, with reference to a Swiss installation with double walls, which appears to solve advantageously the problem of heat insulation.

TESTING AND MEASUREMENT E

CAMBRIDGE TEXTILE EXTENSOMETER: MODIFICATIONS AND APPLICATIONS. S. D. Fletcher. Hexagon Dig. 26: 26-32 (Mar. 1958). (2636)

Experience gained in the operation of the Cambridge textile Extensometer has suggested certain modifications to increase machine efficiency and versatility. These modifications have been incorporated in a new model which is described in this article. Some applications of the modified instrument are described including: load/extension and shrinkage/rate curves for Terylene under dyebath conditions; temperature/tenacity relationships of acrylic fibers under dyebath conditions; effect of testing conditions on tensile strength results. Photographs. Graphs. 4 references.

NEW INSTRUMENTS FOR THE MILL. Brit. Rayon Research Assoc. Textile Weekly 58(1): 1448-1452 (May 23, 1958). (2637)

Features and application of the Manra warp tension balance, loom setting indicator, electronic yarn filament counter, Manra electronic unit for recording yarn tension variations, and the Manra vibrascope for fiber denier, all recently developed by the BRRA.

INSTRUMENTATION IN THE TEXTILE INDUSTRY: TESTING DEVICES FOR FIBERS, YARNS, AND FABRICS. A. J. Hall. Fibres 19: 137-142 (May 1958). (2638)

Instruments for assessing the fundamental properties of fibers, crease resistance, wear resistance, wool felting and shrinkage, and water repellency are reviewed. Photographs.

1958 INSTRUMENTATION SURVEY Fibres 19: 143-150 (May 1958). (2639)

In this sixth annual survey of instruments, details of a representative cross-section of the instruments currently available to the textile industry are described. Photographs.

FIBERS E 1

QUANTITATIVE ANALYSIS OF WOOL/TERYLENE BLENDS. E. V. Truter (Leeds Univ.). (Letter to the editor). J. Soc. Dyers Colourists 74: 303-304 (Apr. 1958). (2640)

One of the most marked differences between wool and Terylene lies in their moisture regains, and this property is used to determine the composition of a number of blends. 3 references.

SELF-RESONATING VIBROSCOPE. J. P. Parker (Am. Enka Corp.). (Letter to the editor). Textile Research J. 28: 531 (June 1958). (2641)

In this modification, the fiber denier is indicated on a meter as soon as the fiber is installed in the clamps. Graph. Photograph. 2 references.

APPLICATIONS OF INFRARED ABSORPTION SPECTROSCOPY TO INVESTIGATIONS OF COTTON AND MODIFIED COTTONS. PART 1. PHYSICAL AND CRYSTALLINE MODIFICATIONS AND OXIDATION. R. T. O'Connor, E. F. DuPré, and D. Mitcham (So. Reg. Research Lab.). Textile Research J. 28: 382-392 (May 1958). (2642)

The purpose of this paper is to describe the usefulness of infrared absorption spectroscopy, and, in particular, the application of a newly-described technique (KBr disc technique) for measuring the infrared absorption spectra of cotton and modified cottons to these types of problems. Graphs. Tables. 33 references.

IDENTIFICATION AND DETERMINATION OF VEREL FIBER IN FABRICS. H. W. Coover, H. R. Lyon, and W. C. Wooten (Tennessee Eastman Co.). (Letter to the editor). Textile Research J. 28: 530 (June 1958). (2643)

AUTOMATIC VIBROSCOPE. B. H. Mackay and J. G. Downes (Wool Textile Research Labs., Australia). Textile Research J. 28: 467-473 (June 1958). (2644)

A simple, automatic version of the vibroscope now frequently used for the determination of mass per unit length of fibers, filaments, and yarn is described. The automatic vibroscope gives continuous indication, is very fast in response, and permits the study of sorption kinetics in single fibers. It is also more sensitive than most manually adjusted versions. Details are given of the construction and operation of the instrument, and an assessment is made of the accuracy of measurement under usual operating conditions. Some other possible applications are briefly discussed. Diagrams. Table. 23 references.

AUTOMATIC SINGLE FIBER TENSILE STRENGTH TESTER. R. A. Crane and P. C. Wharff, Jr. (Dow Chem. Co.). Textile Research J. 28: 343-350 (Apr. 1958). (2645)

A recently developed automatic single fiber tensile tester obtains large amounts of stress-strain data for production control. The instrument tests fibers at a maximum rate of 30-40/hr and plots stress-strain curves which are corrected for denier (cross-section area), corrected for mounting length errors, and include an indication of the denier of each sample. The elastic modulus portion is plotted at twice the sensitivity of the balance of the curve. Ease of use is gained through the application of a "drop-in" loading design. Graphs. Diagrams. Photographs.

RELATIONSHIPS BETWEEN THE MICRONAIRE READINGS AND THE FIBER-WEIGHT OBTAINED BY WEIGHING WHOLE FIBERS. H. Navkal. Indian Cotton Growing Rev. 12: 83-84 (Mar. 1958). (2646)

YARNS E 2

MEASUREMENT OF THE TORSIONAL RESISTANCE OF THREADS AND YARNS WITH PRACTICAL APPLICATION TO SPINNING PROBLEMS (Die Messung des Verdrehungswiderstandes von Garnen und Zwirnen mit Nutzanwendung auf Spinnereiprobleme). H. Perner. Akademie-Verlag. Berlin, 1955. 72 p. In German. Through BCIRA 37: 607 (1957). (2647)

Methods for determining the twisting moment of textile samples are reviewed and the change in the twisting moment of yarns during torsion in dependence of variable values (longitudinal forces) is discussed theoretically. With the new measuring clamp developed, extensive experiments were carried out at constant test length on threads, yarns, and monofilaments to study their twisting moments during torsion and to draw conclusions as to their behavior during processing (tendency to crinkling). By a slight modification of the clamp, it was possible to carry out tests in longitudinal direction at constant force. A relationship was established between the experimental results and theoretical considerations. 57 references.

TERMINOLOGY AND NUMBERING OF CHEMICAL FIBERS; CROSS STRENGTH AND KNOT STABILITY OF SYNTHETIC YARNS FOR FISHING PURPOSES. H. Stutz. Reyon, Zellwolle u. Chemiefasern No. 12: 830-838 (1957). In German. Through BCIRA 38: 159 (1958). (2648)

YARN IRREGULARITY TESTER USING THE VIBRATING STRING PRINCIPLE. J. G. Downes and B. G. Leary (Wool Textile Research Labs., Australia). Textile Research J. 28: 497-502 (June 1958). (2649)

A type of yarn irregularity tester is described in which mass per unit length of a moving yarn is determined by a method in which a short section of the yarn is automatically maintained in resonant transverse vibration. The method makes possible a more direct determination of mass per unit length than is given by capacitance-type testers and leads to a calibration which is independent of the type of material being tested and the regain. The accuracy of the tester was examined by comparing its record with direct measurements of the mass per unit length of various yarns. Diagram. Table. Graphs. 27 references.

DEVELOPMENT OF A NEW METHOD FOR PREDICTING THE SEWING EFFICIENCY OF COTTON THREAD. W. Zagieboylo, E. B. Frederick, and F. F. Balas U.S. Army. Quartermaster Research & Development Labs. Textile & Leather Div. Dec. 1953. 18 p. Order from Library of Congress, Photoduplication Service, Washington 25, D.C. Microfilm $2.40, photostat $3.30. PB 126 738. Textile series report no. 125. (2650)

This report describes the development of another technique for thread testing, using a new instrument that simulates the degradation a thread is subjected to during an actual sewing cycle. The data obtained indicate the impact strength and impact frictional characteristics of the thread. Photographs. Graphs. Tables.

TEX UNIVERSAL YARN NUMBERING SYSTEM. A. G. Scroggie. Textile Research J. 28: 330-337 (Apr. 1958). (2651)

The present status of the tex system in the United States is reviewed, the advantages of the system noted, and the objections offered to such a change are considered in detail. Tables. 13 references.

COMPARISON OF THE TENSILE STRENGTHS OF YARNS USING DIFFERENT GAUGE LENGTHS AND RATES OF LOADING. H. A. Mereness (Inst. of Textile Technol.). Textile Research J. 28: 351-356 (Apr. 1958). (2652)

The breaking loads of four lots of yarn were determined on three testers (pendulum, constant rate of loading, and constant rate of extension) under (1) ASTM-approved conditions, (2) using 10-in. specimens as specified by ASTM but breaking all specimens in 20 sec, and (3) using ISO conditions (20-in. specimen and 20 sec to break). The tests were made on high denier yarns of nylon, Cordura, rayon, and cotton. Tables. Photograph.

SIGNIFICANCE OF THE CONTINUOUS TEST ON FILAMENTS UNDER TENSION. A. Marti and T. Belleli. Bull. Inst. Textile France No. 69: 71-84 (Aug. 1957). In French. Through BCIRA 38: 128 (1958). (2653)

The main techniques used for the continuous dynamometric test on yarns to determine their tensile strength and breaking elongation are described and the types of apparatus used are reviewed, with special reference to the ITF-M machine.

FABRICS E 3

PRACTICAL DETERMINATION OF STRENGTH OF AIRCRAFT FABRIC WITH DOPE REMOVED. A. L. Morse and J. H. Clark. U.S. Civil Aeronautics Administration. Technical Development Center, Indianapolis, Ind. Jan. 1958. 13 p. Order from Office of Technical Services, Washington 25, D. C. 50¢. PB 131 639. (2654)

A portable impact-type fabric tester was developed for use against doped aircraft fabric as an inspection aid to indicate whether or not the tensile strength of that fabric is above a predetermined value. Tests were conducted to calibrate the blow energy delivered by the tester vs tester adjustment and to determine the relationship between tester blow energy for penetration of doped fabric and the tensile strength of that fabric with the dope removed. For report of previous tests see PB 106 756. Photographs. Diagrams. Graphs. Table.

FABRIC PERFORMANCE TESTING AND LABELING. M. E. Humphries. Can. Textile J. 75: 57-62 (June 13, 1958). (2655)

In this discussion on the use of testing to forecast fabric behavior in use, the author stresses the importance of testing for both care and wear behavior and the problems of labeling the tested fabrics for consumer information.

RELIABILITY OF THE SOIL BURIAL METHOD FOR EVALUATING TEXTILE PRESERVATIVE TREATMENTS. J. M. Ashcroft (U.S. Army Eng. Research & Develop. Labs.). Textile Research J. 28: 422-430 (May 1958). (2656)

In recent years, the soil burial method has been the target of considerable adverse criticism. This stems from inconsistencies among the results obtained by different laboratories which have used the method to evaluate the same treatments. The inconsistencies usually have been attributed to the variability of the different soils used, but the results obtained with the soil burial procedure are affected by a number of random variables other than those of the soil. For example, variations incidental to the spinning and weaving of the fabric, in the application of the treatment to the fabric, and in the process of selecting and measuring a representative sample all have effects in addition to those of the soil. This investigation is an attempt to estimate the magnitude of several random variables and of their combined effect on the efficacy of soil burial technique as commonly employed to distinguish real differences among preservative treatments. Diagrams. Graphs. Tables.

TWO-DIMENSIONAL LOAD-EXTENSION TESTER FOR FABRICS AND FILM. P. B. Checkland, T. H. Bull, and E. J. Bakker (Imp. Chem. Inds. Ltd). Textile Research J. 28: 399-403 (May 1958). (2657)

Fabrics in use are rarely subjected to extensions in only one direction, though fabric load-extension testing is normally done in this way. A two-dimensional tester has been constructed with which load-extension curves for both weft and warp directions (or any other mutually perpendicular directions) are recorded simultaneously. The internal strain within the homogeneously strained portion at the center of the fabric is also recorded. The instrument is suitable for making measurements on both knitted and woven fabrics and on plastic film. Diagrams. Graphs. Photographs. 6 references.

OTHER E 4

ERRORS IN THE ASSESSMENT OF COLORFASTNESS. K. McLaren. Reply: U. Bülow and S. Horrdin. (Letters to the editor). J. Soc. Dyers Colourists 74: 420-421 (May 1958). (2658)

ABSOLUTE METHOD FOR THE DETERMINATION OF VEGETABLE MATTER IN SCOURED WOOL. R. P. Harker (Wool Inds. Research Assoc.). J. Textile Inst. 49: T227-T231 (May 1958). (2659)

Methods for the determination of the vegetable content of scoured wool are discussed and a new method, utilizing flotation and density gradient techniques, is described. The method is absolute in so far as the complete sample is recovered after separation and no component suffers degradation, but it is applicable only to material that has been reduced to a finely divided state by some mechanical device (e.g. a rotary cutter). The accuracy claimed is at least $\pm$ 0.5%. Diagram. Graph. Table. Photomicrograph. 9 references.

INDUSTRIAL ENGINEERING F

AUTOMATIC DISPATCH SYSTEM FOR OVERHEAD CONVEYING. J. C. Whitehurst. Am. Textile Reptr. 72: 15-17, 34 (May 29, 1958). (2660)

The Twin-trak automatic dispatch features, including the automatic selective switching, automatic feed-in, carrier storage, and other mechanical functions occur in the load carrier track. This track eventually ties back to the origin point to provide return of load carriers. The selectivity of load destination, plus certain other characteristics of this system, opens up new approaches to some of the conveying and handling problems of the textile manufacturing plant. Photographs.

CALCULATIONS IN REEQUIPMENT: FACTORS AFFECTING DECISIONS ON CAPITAL EXPENDITURE. J. M. S. Risk. Textile Merc. 138: 807-815 (May 23, 1958). (2661)

This British paper is made up of six main sections, the first of which deals with the present economic background to the problems of the industry. After discussing possible ways of avoiding or minimizing reequipment expenditure, the difficulties of the problem are explained and the necessary assumptions and forecasts stated. The next section deals with the current level of return on investment, followed by some observations on obsolescence and taxation. Finally, various ways of screening capital expenditure projects are described. Tables. 12 references.

HANDLING AND STORAGE SYSTEMS STUDY. Am. Textile Reptr. 72: 9, 11, 34 (May 29, 1958). (2662)

Some case studies are presented to demonstrate the savings that can be effected by changes in carton storage and handling systems. Photographs.

FIGHTING AND MEASURING DUST. L. Berends. Enka Breda Rayon Rev. 12: 28-36 (Mar. 1958). (2663)

Methods of dust control and dust measurement by means of the thermal precipitator and stain attractor are discussed. Photographs. Graphs.

PUNCHED-CARD SYSTEM FOR PRODUCTION CONTROL. A. H. Wishner. Modern Textiles Mag. 39: 33-34 (May 1958). (2664)

The use of a Remington Rand system for production control in a knitting mill is described, and it is emphasized that the equipment can be applied efficiently to moderate-size or even quite small businesses.

COUNTERFLOW REGENERATION IMPROVES DEIONIZER EFFLUENT. P. H. Caskey and T. P. Harding. Textile World 108: 82, 152, 156 (June 1958). (2665)

How a modified counterflow system works to improve effluent quality and cut chemical costs. Diagrams. Graphs.

SIMPLIFIED COSTING SYSTEM. E. Birchall. Textile Weekly 58(1): 1445-1447 (May 23, 1958). (2666)

A system for assessing the profitability of a new product is described, and it is pointed out, by means of three examples, that it is not necessarily the product earning the highest profit margin which is best for the factory. There is a limiting factor in production which is, usually, the machine, but may be the human being.

WASTE DISPOSAL F 2

EFFECTS OF SYNTHETIC DETERGENTS ON SEWAGE TREATMENT PROCESSES. C. N. Sawyer. Sewage and Ind Wastes 30: 757-775 (June 1958). (2667)

How increased consumption of syndets and diminishing use of soap is likely to affect sewage treatment processing in the years ahead. 24 references.

AUTOMATION WITH PROCESS INSTRUMENTS. W. H. Ridley (Foxboro Co.). Fibres 19: 151-154 (May 1958). (2668)

The application of automation to the feeding and mixing of materials in bleaching, mercerizing and dyeing, and to the control of temperature, conductivity, and pH is discussed to emphasize the benefits which automatic practices and procedures can bring.

QUALITY CONTROL F 3

PROCEEDINGS OF THE ALL DAY CONFERENCE ON QUALITY CONTROL. Am. Soc. for Quality Control, Metropolitan Sect., and Rutgers Univ. New Brunswick, N.J., Sept. 7, 1957. 140 p. Available from Am. Soc. for Quality Control, 6197 Plankinton Bldg., 161 W. Wisconsin Ave., Milwaukee 3, Wis. $2.00. (2669)

Application of statistical methods in operations research, quality control, life testing, and work sampling.

X-RAY OF MILL QUALITY. PART 1. QUALITY AUDIT OF A TEXTILE MILL. J. H. Enters. Textile Merc. 138: 766-769 (May 16, 1958). (2670)

The Hodara method of analyzing ends down in a spinning mill as a means of making a quality audit is described and illustrated by a case history from a small Dutch spinning mill.

X-RAY OF MILL QUALITY. PART 2. NEW SERVICE FOR THE LANCASHIRE INDUSTRY. R. G. Newbery. Textile Merc. 138: 769-773 (May 16, 1958). (2671)

The main features and advantages of the Hodara ends down method are cited on the basis of two experimental audits done to evaluate the applicability of the method to Lancashire spinning conditions.

VARIANCE ANALYSIS. N. L. Enrick (Inst. of Textile Technol.). Modern Textiles Mag. 39: 43-44, 50 (June 1958). (2672)

This article explains in nonmathematical language how this statistical tool works as an aid in reducing processing costs and improving product quality. Two typical examples from weaving and spinning applications are given. Tables. Graphs.

SCIENCES G

CHEMISTRY G 1

ENERGY INTERACTION BETWEEN TEXTILE FIBERS AND PIGMENT SOIL DURING THE WASHING PROCESS. H. Lange. Kolloid Z. 154, No. 2: 103-110 (1957). In German. Summary in BCIRA 38: 34 (1958). (2673)

AMINO ACID COMPOSITION OF KERATINS. PART 5. COMPARISON OF THE CHEMICAL COMPOSITION OF MERINO WOOLS OF DIFFERING CRIMP WITH THAT OF OTHER ANIMAL FIBERS. D. H. Simmonds (Wool Textile Research Labs., Australia). Textile Research J. 28: 314-317 (Apr. 1958). (2674)

Two Merino wool samples having the same fiber diameter but differing widely in the number of crimps per inch of fiber length were analyzed for amino acid composition and compared with single samples of human hair and kid mohair to determine whether their composition could be related to their chemical and physical properties. Tables. 23 references.

ELECTRON MICROSCOPIC REPRESENTATION OF LATERAL ORDER DISTRIBUTION IN CELLULOSE FIBERS AND THEIR COMPARISON WITH OTHER FIBER TYPES. K. Hess, H. Mahl, and E. Gütter. Kolloid Z. 155, No. 1: 1-19 (1957). In German. Summary in BCIRA 38: 126 (1958). (2675)

DETERMINATION AND THE SIGNIFICANCE OF CRYSTALLITE SIZE IN REGENERATED CELLULOSE FIBERS. D. N. Tyler and N. S. Wooding. J. Soc. Dyers Colourists 74: 283-291 (Apr. 1958). (2676)

Determinations of accessibility and total crystalline content have been made for a number of regenerated cellulose fibers. Moisture sorption has been used as a measure of cellulose accessibility, and total crystalline content has been estimated from density measurements. Diagram. Tables. Graph. 31 references.

SYSTEMATIC ABSENCES AND THE X-RAY DIAGRAM OF CELLULOSE. K. C. Ellis and J. O. Warwicker (Brit. Cotton Ind. Research Assoc.). (Letter to the editor). Nature 181: 1614-1615 (June 7, 1958). (2677)

FACTORS INFLUENCING THE CRYSTAL STRUCTURE OF CELLULOSE TRIACETATE. B. S. Sprague, J. L. Riley, and H. D. Noether (Celanese Corp.). Textile Research J. 28: 275-287 (Apr. 1958). (2678)

A general examination of the effects of cellulose source and conditions of acetylation on the crystalline structure of cellulose triacetate has been carried out. Heat has been shown to markedly improve the lateral order of the structure and thereby to demonstrate the existence of two stable polymorphic crystalline forms, cellulose triacetate I and cellulose triacetate II. A general summary of conditions for achieving each structure is given. Graphs. X-ray patterns. Tables. 18 references.

24TH ANNUAL REVIEW OF THE LITERATURE ON FATS, OILS, AND DETERGENTS. M. M. Piskur. J. Am. Oil Chemists Soc. 35: 208-225 (May 1958); 288-316 (June 1958). (2679)

GOOD HOUSEKEEPING'S GUIDE TO WASH-AND-WEAR. Good Housekeeping, 8th Ave. & 57 Street, New York 19, N.Y. 1958. 15 p. (2680)

A report by the editors of Good Housekeeping on wash-and-wear clothes, including information on how to know wash-and-wear clothes, how to buy them, and how to care for them.

AMINO ACID COMPOSITION OF FRACTIONATED CORTICAL CELLS FROM WOOL. D. H. Simmonds and J. J. Bartulovich. Textile Research J. 28: 378-381 (May 1958). (2681)

Two cortical cell fractions separated from wool after treatment at 30° C with 6 N HCl for 50 hr were analyzed for their amino acid composition. The heavy fraction was significantly richer than the light fraction in amide nitrogen, cystine, serine, and proline, but was deficient in alanine, glutamic acid, glycine, leucine, lysine, phenylalanine, and tyrosine. Both cortical cell fractions were richer than the original wool in cystine, lysine, and proline, while the material dissolved by the acid treatment was richer in glycine, phenylalanine, serine, and tyrosine. Tables. Graph. 23 references.

PHYSICS G 2

SURFACE OF COTTON FIBERS. PART 4. DISTRIBUTION OF DRY SOIL. V. W. Tripp, A. T. Moore, B. R. Porter, and M. L. Rollins (So. Reg. Research Lab.). Textile Research J. 28: 447-452 (June 1958). (2682)

The location of soiling agents such as colloidal and activated carbon, floor soil, a synthetic soil, and a clay on gray and modified plain weave cotton fabrics soiled under controlled conditions was determined by light and electron microscopical examination. Gross and fine geometry of fabric and fiber play a major role in determining the distribution of soil in most cases. The mechanical entrapment of soil particles and agglomerates between fibers near the surface of the fabric is repeated in the accumulation of soil in the natural or induced irregularities of the native and modified fiber surfaces. The presence of soft films on the fiber surface extends the quantity of soil and its distribution. Sorption of the soil particles on apparently smooth areas of the fiber also occurs to a significant extent. Photomicrographs. 13 references.

EFFECT OF NUCLEAR RADIATION ON FIBROUS MATERIALS. PART 3. RELATIVE ORDER OF STABILITY OF CELLULOSIC FIBERS. O. Teszler, L. H. Kiser, P. W. Campbell, and H. A. Rutherford (N. C. State Coll.). Textile Research J. 28: 456-462 (June 1958). (2683)

Cotton, rayon, and acetate yarns were exposed for different periods of time to thermal neutrons and to gamma rays. The results have shown that total dose is the deciding factor in the extent of change in physical properties of the materials and that gamma rays (Co^{60}) alone have essentially the same effect as thermal neutrons when the energies from the two are equated. The decreasing order of stability of the materials was acetate, rayon, and cotton. The data suggest that there are linkages in the native cellulose molecule susceptible to radiation that are not present in the regenerated materials. Graphs. 12 references.

MISCELLANY H

COLORFASTNESS AND TEXTILE FINISHING REQUIREMENTS OF THE ULTIMATE CONSUMER. J. S. Ingham. The Cobbler 10: 46-50 (1958). (2684)

TEXTILE MACHINERY AT HANOVER: SURVEY OF CONTINENTAL DEVELOPMENTS. Textile Weekly 58(1): 1090-1094 (Apr. 18, 1958). (2685)

RESEARCH REQUIREMENTS FOR FUTURE GROWTH OF THE TEXTILE INDUSTRY. M. E. Heard (West Point Mfg. Co.). Am. Textile Reptr. 72: 13, 39-40 (June 12, 1958). (2686)

Report of a speech at the Canadian Textile Conference in Montreal.

CONFERENCE ON DYEING AND PRINTING. Teinture et Apprets No. 41: 124-147 (June 1957). In French. Through BCIRA 38: 55 (1958). (2687)

The following papers were presented at a conference held on March 20th, 1957: Present trends in the German dyeing and printing industry, by P. Rabe, p. 124-130; Recent improvements in textile printing, by B. Jomain, p. 131-141; Waterproofing of textiles, by R. Baumgartner, p. 142-147.

CHEMICAL PUBLICATIONS: THEIR NATURE AND USE. 3d ed. M. G. Mellon. McGraw-Hill Book Co., 330 W. 42 Street, New York 36, N. Y. 1958. 327 p. $7.00. (2688)

The chemical literature is surveyed for primary sources (periodicals, government and nongovernment institutional publications, patents, dissertations, manufacturers' technical publications, etc.), secondary sources (index, abstracting, and review journals and serials, bibliographies, reference works, and monographs and textbooks), and tertiary sources (guides and directories). There is also a chapter on searching the chemical literature and a chapter of library problems.

HANOVER FAIR KNITTING AND ALLIED EQUIPMENT. J. B. Lancashire. Hosiery Trade J. 65: 84-88 (June 1958). (2689)

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington, 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

PATENTS: FIBERS/YARN PRODUCTION
Abstr. 2690 - 2694

FIBERS A

NATURAL FIBERS A 1

MOISTURE CONTENT CONTROL IN LINT COTTON. W. R. Bryant. USP 2 834 058, May 13, 1958. (2690)

Apparatus for introducing a controlled quantity of moisture into lint cotton fibers after ginning but prior to baling in order to maintain a constant moisture content in the lint fibers.

OUTER SKIN REMOVAL FROM BARK CONTAINING FIBERS. P. H. Johnson (to Sudan Gezira Board). USP 2 835 928, May 27, 1958. (2691)

Crimping apparatus for producing cracks in the skin of dried bark (e.g. cotton stalk bark) so that it can be removed without harm to the underlying fibers.

MAN MADE FIBERS A 2

PREPARATION OF ASBESTOS-LIKE FIBROUS ALKALI METAL TITANATE. T. E. Gier, P. L. Salzberg, and H. S. Young (to E.I. du Pont de Nemours & Co.). USP 2 833 620, May 6, 1958. (2692)

Water-insoluble, nonhydrated, alkali metal titanate fibers are prepared by reacting in the presence of water an alkali metal hydroxide and titanium dioxide at 400 to 800° C and under 500 to 4000 atmospheres.

CRIMPED CONTINUOUS VISCOSE FILAMENTS. R. Woodell (to E. I. du Pont de Nemours & Co.). USP 2 834 093, May 13, 1958. (2693)

Crimped viscose filament having a rough surface made up of 200 to 700 wave-like irregularities per inch.

YARN PRODUCTION B

GARNETT WIRE. W. H. Mee. USP 2 832 098, Apr. 29, 1958. (2694)

Garnett wire constructed so that when a foreign substance overloads some of the teeth, they may be broken from the wire base without damage to the base or to the rest of the teeth.

PATENTS: YARN PRODUCTION
Abstr. 2695 - 2699

TOW FEEDING AND COLLECTING DEVICE. S. G. Hawtin and D. W. Groombridge (to Brit. Celanese Ltd). BP 787 555, Dec. 11, 1957. Through BCIRA 38: 79 (1958). (2695)

The device consists of a driven, cylindrical wheel that has 10-20 pegs reaching out from the periphery at one side. The "yarn" makes a few laps around the wheel and is then transferred to the pegs before dropping off into the can, e.g. a sliver can.

PRODUCTION OF CRINKLED YARNS. Moulinage et Retorderie de Chavanoz. BP 787 619, Dec. 11, 1957. (Addition to BP 733 707). Through BCIRA 38: 85 (1958). (2696)

In this method for inserting a crinkling twist in thermoplastic yarns by passing them through a hot setting zone and then inserting false twist in such a way that the twist runs back into the setting zone, the yarn is taken up under the required tension by a rotary feed device, and its linear velocity reduced as it approaches the winding device which is driven at a different speed.

TOP ROLL WEIGHTING. E. Walsh and T. H. Wright (to T.M.M. (Research) Ltd). BP 788 232, Dec. 23, 1957. Through BCIRA 38: 114 (1958). (2697)

Pressure-pad or saddle weighting device for the top detaching rollers of a combing machine or the drawing rollers of a draw-frame. The tension rod is attached to a fixed pivot so that when it is raised to unload the rollers it is constrained to swing to a lateral position and thus move the pad or saddle clear of the roller.

DIRECT SPINNING MACHINE. W. Hardacre and E. Beaumont (to Courtaulds Ltd). BP 790 074, Feb. 5, 1958. Through BCIRA 38: 143 (1958). (2698)

In a machine for converting a tow or standard sliver of continuous filaments into a staple fiber yarn, in place of the usual carrying rollers between the pairs of drafting rollers that cause rupture of the filaments, use is made of a shaft carrying a series of star wheels, one for each tow. The drive for this shaft is derived from a drive to either the front or back rollers.

PACKAGING A CONTINUOUS STRAND. W. W. Drummond, W. R. Steitz, and P. J. Frickert (to Owens-Corning Fiberglas Corp.). USP 2 834 092, May 13, 1958. (2699)

The strand is laid in spiral layers on the interior of a rotating cylindrical surface.

PRODUCTION AND TREATMENT OF YARNS. D. Finlayson, R. W. Fearn, and W. Williams (to Brit. Celanese Ltd). BP 790 128, Feb. 5, 1958. Through BCIRA 38: 143 (1958). (2700)

The invention relates to the crimping of continuous filament yarn of the nylon type and production of a bulky two-fold yarn. False twist in opposite directions is inserted in two running yarns, the twist is set by heat, and the two yarns are doubled together.

METHOD AND APPARATUS FOR CONTINUOUS CRIMPING. NV Onderzoekingsinstituut Research. BP 790 163, Feb. 5, 1958. Through BCIRA 38: 143 (1958). (2701)

The thread is led through a heated tube only so much wider than the thread that this, as it vibrates, touches the tube over its entire surface. The tube may be a helical spring heated electrically.

OPENING, PICKING, FIBER PREPARATION B 1

FEEDING MEANS FOR OPENING MACHINERY. F. Singleton (to T. M. M. (Research) Ltd). BP 787 669, Dec. 11, 1957. (Addition to BP 719 495). Through BCIRA 38: 84 (1958). (2702)

In an apparatus for delivering opened fiber by a condensing cage to a trunk (in which it is compacted into a sheet) a side-wall of the trunk is pivoted to a horizontal frame member and oscillated, so that the cross-section of the trunk alternately decreases and increases.

AUTOMATIC DOFFING MECHANISM FOR LAP WINDING MACHINE. M. Stein (Hungary). BP 790 072, Feb. 5, 1958. Through BCIRA 38: 142 (1958). (2703)

Automatic lap doffing device of the type in which a lap is wound on a driven fluted carrier roller under pressure from a rack head that moves up and down to doff a full lap and feed an empty lap rod after a predetermined lap length has been reached.

IMPROVED SCREEN FOR COTTON CLEANING BLOWERS. E. M. Burns. USP 2 834 060, May 13, 1958. (2704)

PNEUMATIC COTTON LINT CLEANING APPARATUS. D. W. Van Doorn (to Lummus Cotton Gin Co.). USP 2 834 061, May 13, 1958. (2705)

In an apparatus for the separation of trash from an airborne mixture of trash and fibers, a high velocity narrow stream of air directed across the fiber-trash mixture is effective in retaining the fiber in the duct and discharging the trash through a suitable opening.

CARDING AND COMBING B 2

TAPE WEB DIVIDERS FOR CARDING ENGINES. K. Jakubecki (Austria). BP 789 897, Jan. 29, 1958. Through BCIRA 38: 142 (1958). (2706)

The tapes are made of or contain polyamide or polyurethane plastics.

SLIVER COILING HEAD TRANSFERRING APPARATUS. C. Warrington (to Tweedales & Smalley Ltd). BP 789 592, Jan. 22, 1958. Through BCIRA 38: 142 (1958). (2707)

ELECTROSTATICALLY INSULATED COILER HEAD MECHANISM. J. R. Whitehurst (to Ideal Inds.). USP 2 832 999, May 6, 1958. (2708)

In order to eliminate the generation of static electricity, the coiler head and its support are made of an antistatic material such as ceramic, plastic, or fiberboard.

CARDING DEVICES. R. Taine and J. Pelissier (France). USP 2 835 929, May 27, 1958. (2709)

See abstr. 972/58.

SLIVER COILER FOR GILL BOX. J. H. Selby. (to Warner & Swasey Co.). USP 2 835 930, May 27, 1958. (2710)

The rotatable head of the coiler is mounted so as to reduce friction and wear to a minimum and make possible proper lubrication without soiling the sliver.

DRAWING AND ROVING B 3

DRAFTING FRAME. H. Lorenz and G. Quosig (to VEB Spinnereimaschinenbau). BP 790 077, Feb. 5, 1958. Through BCIRA 38: 142 (1958). (2711)

Guide for insertion between the bearing carriage and roller stand of the bottom roller assembly of drafting frames comprises a strip of sheet metal or other material the longitudinal edges of which extend in opposite directions at right angles to the plane of the strip so as to engage surfaces of the bearing carriage and roller stand. The projections may be formed by bending the strip to produce flanges.

ROLLER CLEANING DEVICE FOR DRAFT SYSTEMS. E. Toenniessen (Germany). USP 2 834 062, May 13, 1958. (2712)

An underclearer for a drafting roller system, especially one associated with a flyer, is held in position at the forward end by a releasable locking device and is suspended at the rear in such a way that on hinging down it moves forward.

SADDLE WEIGHTING MECHANISM FOR TOP DRAFTING ROLLS. R. Rulon-Miller and W. H. Tabor (to Dixon Corp.). USP 2 834 996, May 20, 1958. (2713)

Two-part saddle whose parts are connected to each other by a ball and socket arrangement to assist in the alignment of the top front roll with its bottom roll without interference from any back roll.

SPINNING, WINDING, TWISTING B 4

CAP SPINNING FRAME. D. M. Hannah (England). USP 2 833 112, May 6, 1958. (2714)

The base of the cap is shaped so as to maintain uniform yarn tension and balloon shape at all times.

BOBBIN SUPPORTING DEVICES FOR SPINNING MACHINE. B. H. J. Quint (to Plessey Co. Ltd). BP 787 660, Dec. 11, 1957. (Addition to BP 732 137). Through BCIRA 38: 85 (1958). (2715)

Means for suspending bobbins in a creel that incorporates a collar and sleeve device with which the bobbin supports can be moved into and out of the working position.

BOBBIN DRAG DEVICE FOR FLYER-TYPE SPINNING MACHINES. Spinnbau GmbH. BP 787 719, Dec. 11, 1957. Through BCIRA 38: 85 (1958). (2716)

SPINNING MACHINE FOR SHORT STAPLES. A. Knowles and W. H. Watson (to T.M.M. (Research) Ltd). BP 787 854, Dec. 18, 1957. Through BCIRA 38: 85 (1958). (2717)

The invention relates to a machine of the Chapon cup type for spinning short staples, e.g. cotton waste.

TWISTER CABLER FOR TIRE CORDS. J. Woods and H. Schofield (to John Bright & Bros. Ltd). BP 788 242, Dec. 23, 1957. Through BCIRA 38: 115 (1958). (2718)

SPINDLE DRIVE. Barmer Maschinenfabrik AG. BP 788 640, Jan. 2, 1958. (Addition to BP 770 710). Through BCIRA 38: 115 (1958). (2719)

Spinning, twisting, or winding spindle driven by a single or polyphase motor the magnetic flux in which is regulated by the growth of the package and fluctuations in tension.

AUTOMATICALLY STOPPING DELIVERY OF ROVING AND YARN. C. Tate (to I. & I. Calvert Ltd). BP 788 906, Jan. 8, 1958. Through BCIRA 38: 114 (1958). (2720)

Device for preventing the occurrence of "singles" comprises a slotted plate for guiding the yarn or roving between the source of supply and the feed rollers, fitted with a pivoted lever that stays up if both ends are intact but, if an end fails, is tripped by the other end so that it brings this end into engagement with a cutter.

SPINNING MACHINE FLYER. C. Tate (to I. & I. Calvert Ltd). BP 788 907, Jan. 8, 1958. Through BCIRA 38: 114 (1958). (2721)

To prevent a broken end from running double with an adjacent end on a flyer spindle, the tubular head of the flyer is provided upon its upper end or crown with an undercut tooth (or teeth) that catches the broken end and strains the adjacent end until it breaks. Various methods for attaching the device to existing flyers are mentioned.

ELECTRICALLY-DRIVEN SPINDLE. Barmer Maschinenfabrik AG. BP 789 573, Jan. 22, 1958. (Addition to BP 770 710). Through BCIRA 38: 143 (1958). (2722)

Motor-driven spindle for securing constant winding tension at the various stages in the growth of the package.

YARN TENSION REGULATING DEVICE FOR CABLING SPINDLES. Barmer Maschinenfabrik AG. BP 788 960, Jan. 8, 1958. (Addition to BP 755 588). Through BCIRA 38: 115 (1958). (2723)

FALSE-TWIST DEVICE. E. P. R. Scragg and A. Dobson (to Ernest Scragg & Sons Ltd). BP 789 626, Jan. 22, 1958. Through BCIRA 38: 143 (1958). (2724)

In a device of the rotating tube type for imparting false twist into nylon and similar synthetic yarns, the tube can be rotated at higher speeds and for longer periods than usual. The rotating tube is supported only by pulleys on one side and a driving belt on the other, the assembly comprising a housing or bracket that can be swung towards and away from the belt, and a pair of vertical rollers with the twist tube parallel to them in a hole in the housing.

SPINNING MACHINE DRIVE. H. A. Boyd (to J. & T. Boyd Ltd). BP 790 122, Feb. 5, 1958. Through BCIRA 38: 143 (1958). (2725)

Drive in which a snake-like belt makes contact with whorls on the spindles or flyers. A second whorl on each spindle or flyer is mounted adjacent to the face of the belt that is remote from the first whorl so as to disengage the belt as required. A bell-crank lever linked to a biased lever is used to operate a swing lever by which the first whorl is pressed against the belt.

CAP SPINNING AND TWISTING FRAMES. H. Hadlich (to VEB Spinn-und Zwirnereimaschinenbau). USP 2 833 111, May 6, 1958. (2726)

Means for maintaining uniform tension in the ballooning yarn in order to prevent loose windings and yarn breakage.

BOBBIN SUPPORTING DEVICE. B. H. J. Quint (to Plessey Co. Ltd). USP 2 833 490, May 6, 1958. (2727)

Tubular sleeve with bobbin supports mounted on a common pivot, a rotatable spindle, and a slideable collar, connected to the spindle, whose movement permits the movement of the bobbin supports in or out of the supporting position.

SUCTION TYPE BOBBIN STRIPPER. P. J. Vowles. USP 2 834 090, May 13, 1958. (2728)

Apparatus in which individual and successive bobbins may be fed in an untimed relation and without precision positioning so that high speeds are attained.

PLY TWISTING MACHINE. N. E. Klein (to Deering Milliken Research Corp.). USP 2 834 178, May 13, 1958. (2729)

For producing a twisted continuous cord without knots in a precision wound package having a high density and uniform lay of ply.

YARN TWISTING MACHINE. K. Nishimura (Japan). USP 2 834 179, May 13, 1958. (2730)

High speed machine in which the yarn being twisted is not subjected to excessive air resistance or oscillations.

TOP DRAFTING ROLL MOUNTING FOR SPINNING MACHINES. J. Calvert and R. M. Blackburn (to T.M.M. (Research) Ltd). USP 2 834 995, May 20, 1958. (2731)

The bearing brackets by which the drafting rolls are mounted on the supporting arms are provided with means to ensure the proper relationship between the top and lower rollers during operation.

SUCTION CLEANING MEANS FOR SPINNING MACHINES. H. Thoma (Switzerland). USP 2 835 103, May 20, 1958. (2732)

Suction means for removing lint and fibers which fall from woolen ropings as they pass through the drafting mechanism before being wound on the spinning spindles.

SPINDLE ASSEMBLY. W. E. Guthrie. USP 2 835 104, May 20, 1958. (2733)

Oil reservoir which serves to retain the spindle in a fixed relationship on a base rail and which oils the spindle during rotation, thus eliminating the need for periodic lubrication.

HOLDER FOR ROVING BOBBIN. A. E. Winslow (to Standard Screw Co.). USP 2 836 376, May 27, 1958. (2734)

YARN TENSION DEVICE FOR SPINDLES. H. O. G. Kubler and O. Bochmann (to Barmer Maschinenfabrik AG). USP 2 836 377, May 27, 1958. (2735)

In a multiple wire spindle in which the yarn is tensioned by a disc brake in the middle of the spindle, the discs of the brake are arranged vertically and are controlled by means of a permanent magnet.

FABRIC PRODUCTION C

BRAIDING MACHINE. R. M. Fraser (to Fabrica Argentina de Alpargata SAIC). BP 788 023, Dec. 18, 1957. Through BCIRA 38: 89 (1958). (2736)

Transmission device for simultaneously actuating all the oscillating guide arms, so that differences in the amount of wear suffered by the guide arms are minimized. It dispenses with the peripherally slotted disc or its equivalent, the central crown wheel, thus eliminating wear on the slot edges or wheel teeth.

WARPING, SLASHING, YARN PREPARATION C 1

DRAWING-IN FRAME. A. E. Aspinall and C. R. Holroyd. BP 787 839, Dec. 18, 1957. Through BCIRA 38: 88 (1958). (2737)

Drawing-in frame that can be used with a warper already fitted with stop motion pins has top and bottom clamps that form part of a frame pivoted to the main frame. By turning the frame the warp ends can be brought into a horizontal position with the pins hanging at right angles and able to move easily along the ends, while in the vertical position of the warp the automatic reacher-in can be used to draw the ends through the heddles.

PHOTOELECTRIC DEVICE FOR CONTROLLING AMOUNT OF THREAD WOUND ON A COP. C. G. Rosenkranz, H. Halstenbach, and A. Plutte (to Halstenbach & Co.). BP 787 549, Dec. 11, 1957. Through BCIRA 38: 88 (1958). (2738)

The beam of light casts a rectangular patch on the cell and is arranged to be interrupted when the shoulder of the cop reaches the desired diameter.

SIZING MACHINES WITH ONE-WAY AIR DRYERS. Maschinenfabrik Rüti AG. BP 788 558, Jan. 2, 1958. Through BCIRA 38: 118 (1958). (2739)

In warp sizing on machines with air drying chambers there is a tendency for groups of ends to stick together. This trouble is usually overcome by causing the warp to pass more than once through the dryer. For "one-way" operation it is now proposed to place two guide rollers at an angle between the sizing means and the dryer so as to deflect the warp ends at least twice before they enter the dryer. The rollers are mounted for relative adjustment to vary the deflection angles and are coated with a substance that resists adhesion of the sized ends.

BEAM WARPING MACHINE. S. Fürst (to Walter Reiners). USP 2 834 091, May 13, 1958. (2740)

The pressure controls for hard and soft winding operations are assigned to both the beam and pressure roller which permits the selective use of either for determining the pressure imposed and thus increases the pressure range obtainable.

CORE DELIVERY DEVICE FOR COP WINDING MACHINES. H. L. Muschamp and J. R. Grady. USP 2 834 509, May 13, 1958. (2741)

WEAVING C 2

WARP STOP MOTION. Sulzer Frères SA. BP 787 697, Dec. 11, 1957. Through BCIRA 38: 89 (1958). (2742)

Control device for warp stop motion that ensures that the motion does not operate (in the event of a warp failure) until a point on the main shaft is within at least one particular sector of the working cycle in which the heddles and lay are readily accessible for rectifying the failure.

WEFT CLAMPING DEVICE. Sulzer Frères SA. BP 787 766, Dec. 18, 1957. Through BCIRA 38: 89 (1958). (2743)

To overcome the tendency of spring clamp devices to open by vibration, it is proposed to make the clamp of two double-arm levers pivoted to a carrier, one arm of each having a suitable surface for engaging the yarn and the other arm being loaded by a spring.

PICKER FOR JUTE LOOMS. E. Haag (France). BP 788 039, Dec. 18, 1957. Through BCIRA 38: 89 (1958). (2744)

The picker is made of a plastic (polyisocyanate polyester reaction product), is narrower at the part where the shuttle strikes than at the spindle guide part, and has recesses in the middle area of its side faces.

WEFT INSERTERS FOR SHUTTLELESS LOOM. R. Dewas (France). BP 788 089, Dec. 23, 1957. Through BCIRA 38: 119 (1958). (2745)

Device for inserting weft in a warp shed from large, fixed bobbins comprises a needle with an elongated shoe-like element resiliently urged against the needle by the free end of a cantilever blade spring, the spring and needle together constituting a weft clamp. The shoe part is tiltably connected to the needle and to the blade spring by means of studs in a rearward extension.

PROPELLING THE SHUTTLE OF A CIRCULAR LOOM WITH HORIZONTAL SHED. Soc. d'Applications Gen. d'Elect. & de Mecanique. BP 788 144, Dec. 23, 1957. (Addition to BP 732 099). Through BCIRA 38: 119 (1958). (2746)

Means for propelling the shuttle in a circular loom with a minimum of wear on the warp ends includes a roller for supporting and propelling the shuttle on a revolving carriage beneath the shed.

LOOM HEDDLE FRAME. T. Kershaw and J. H. Kershaw. BP 788 171, Dec. 23, 1957. Through BCIRA 38: 119 (1958). (2747)

Frame with a track in its upper and lower rails along each of which a retaining member for a bar that supports the heddle wires is carried by a ball or roller bearing. These bearings are mounted in plates and retained by resilient members.

SHUTTLELESS NARROW FABRIC LOOM. Cuckson Textiles Proprietary Ltd. BP 788 485, Jan. 2, 1958. Through BCIRA 38: 119 (1958). (2748)

The weft is picked by a reciprocating hooked knitting needle that retains the yarn during the far-to-near pick and knits it before beginning the near-to-far movement. The needle is hollow and contains a sliding bar that serves to open and close the needle eye. Reciprocation and movement of the closure bar are operated by two grooves in a cam. Warp shedding occurs at the end of the far-to-near side pick.

HEDDLE SHAFT CONSTRUCTION. A. Barzaghi (Italy). BP 788 644, Jan. 2, 1958. Through BCIRA 38: 119 (1958). (2749)

Chafing of one set of warp threads against the other set as they pass in shedding is prevented by suspending the heddles on the shaft rods by means of slots that differ in length, e.g. two lengths alternating.

PICKER STICK CHECK. H. Weder (to VEB Webstuhlbau Neugersdorf). BP 788 840, Jan. 8, 1958. Through BCIRA 38: 119 (1958). (2750)

Two buffer elements are attached to the free ends of a bar placed across the loom. The movement of the bar on impact of the picking stick is checked by a friction brake acting at the middle of the bar.

DOUBLE LIFT DOBBY DRAW HOOK CONTROL. R. Staubli, H. H. Staubli, and O. Staubli (Switzerland). BP 788 910, Jan. 8, 1958. Through BCIRA 38: 119 (1958). (2751)

VERDOL JACQUARDS. Soc. des Mécaniques Verdol. BP 789 852, Jan. 29, 1958. Through BCIRA 38: 146 (1958). (2752)

Means for feeding the pattern card on a Verdol jacquard in such a way that the same card can be repeated at will or used to effect a number of successive picks that are either identical or partly or wholly opposed to each other. The shaft that carries the wheels for advancing the card has two identical gear wheels and the number of teeth on them is a multiple of the number of definite angular positions of the shaft in operation.

DOBBIES. G. J. M. ter Horst. BP 789 954, Jan. 29, 1958. Through BCIRA 38: 146 (1958). (2753)

Horizontal overhead dobby fitted with a number of horizontal hooks that can be brought into the path of a common driver or knife by a selector device according to the pattern. The hooks are normally pulled, by their respective heddles, with their rear ends against a movable abutment connected with the driver or knife in such a way that their movements are in opposite directions.

SHUTTLES. J. H. Bennett, R. Pilkington, and A. H. Bennett (to A. Bennett & Sons (Textiles) Ltd and Piltex Ltd). BP 789 972, Jan. 29, 1958. Through BCIRA 38: 146 (1958). (2754)

Hand-threaded shuttle has an inclined slot that leads at one end from the weft hole to the upper surface of the shuttle and at the other end extends to the side of the shuttle and terminates in a hole that leads from the weft hole.

LOOM TENSION MEASUREMENT. Licencia Találmányokat Értéskesitó Vállalat. BP 790 010, Jan. 29, 1958. Through BCIRA 38: 147 (1958). (2755)

Method of and apparatus for ascertaining the ratio of tensions caused by shed formation and warp thread braking action in both branches of a shed on looms.

DOUBLE-LIFT DOBBY LOOM. Maschinenfabrik Ruti AG. BP 790 260, Feb. 5, 1958. Through BCIRA 38: 147 (1958). (2756)

Feeler apparatus for controlling a double-lift dobby in accordance with a perforated pattern card.

LOOM. G. Shaw. USP 2 833 314, May 6, 1958. (2757)

Loom for weaving decorative matting suitable for use as place mats, screens, lamp shades, porch blinds, etc., from a stiff weft, e.g. polystyrene monofilaments, interwoven with an elastic warp, e.g. plasticized vinyl chloride.

AUTOMATIC PIRN CHANGING DEVICE. G. Wiget and G. Dubs (to Adolphe Saurer SA). USP 2 836 202, May 27, 1958. (2758)

Each compartment of a magazine has a movable pirn guard which, in its normal position, intercepts the pirn resting at the bottom of the pile in the compartment and which, during pirn changing, moves to a position above the shuttle receiving the pirn.

SHUTTLE GUIDE. G. W. Dunham. USP 2 833 315, May 6, 1958. (2759)

Tunnel-like raceway equipped with a series of aligned notches for restraining the shuttle from deviating from its guided path of flight along the length of the lay.

RIBBON ROLLER ATTACHMENT FOR RIBBON LOOM. T. H. Brown. USP 2 833 316, May 6, 1958. (2760)

Attachment for compactly winding a series of ribbons side-by-side on a single beam so that they are ready for pad dyeing without further handling.

SLACK PAWL MOUNTING FOR LOOM TAKEUP LETBACK MECHANISM. F. A. Hamilton. USP 2 834 380, May 13, 1958. (2761)

The slack pawls are located in a protected position to prevent them from being struck by quill and filling boxes.

DROPPER BLADE FOR WARP DETECTORS. E. L. Grangier (France). USP 2 834 381, May 13, 1958. (2762)

Dropper blade, corresponding to a faulty thread, which assumes an oblique position in a row of normally vertical blades so that it may be easily and rapidly located by the operator.

LOOM FRAME. J. O. Hunt. USP 2 835 276, May 20, 1958. (2763)

Rigid frame structure which supports the moving parts of the loom so as to permit high speed operation without severe vibration.

LOOM FOR WEAVING LOOP PILE CARPETS. F. P. Groat (to Bigelow-Sanford Carpet Co.). USP 2 835 277, May 20, 1958. (2764)

Loom in which a series of needle bars having hooked needles of varying heights are used to raise portions of pile warps to form loops of different heights in accordance with a pattern.

SHUTTLE THREADING BLOCK. A. Villani (to Draper Corp.). USP 2 835 278, May 20, 1958. (2765)

WEAVING PILE CARPETS. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 836 201, May 27, 1958. (2766)

Method of doubling the output of carpets with normal back construction without increasing the loom speed by introducing pile wires alternately from opposite sides. A wide variety of textured effects is achieved by combining cut or uncut pile, or using all cut pile or all uncut.

KNITTING C 3

SECTIONAL BEAM WARPING MACHINE FOR WARP KNITTING FRAMES. J. Sailer and L. Lutz-Sailer (Germany). BP 788 694, Jan. 8, 1958. Through BCIRA 38: 118 (1958). (2767)

CIRCULAR HOSIERY MACHINE. W. M. Golaski. USP 2 833 132, May 6, 1958. (2768)

Bearing arrangement for reducing the friction between the abutting surfaces of the rotary sleeve carrying the needle cylinder and the bed plate assembly by which it is supported.

PATTERN MECHANISM FOR SOLID PATCH CIRCULAR HOSIERY MACHINE. H. E. Crawford (to H. E. Crawford Co.). USP 2 833 133, May 6, 1958. (2769)

CIRCULAR HOSIERY MACHINE. E. St. Pierre and J. Wawzonek (to Hemphill Co.). USP 2 834 192, May 13, 1958. (2770)

Indexing mechanism for automatically changing the angular relation between the drive and driven part of a circular, independent needle machine.

RACKING CONTROL FOR INDEPENDENT NEEDLE, MULTIFEED KNITTING MACHINE. F. C. Wiesinger and T. C. Lyster (to Wildman Jacquard Co.). USP 2 835 119, May 20, 1958. (2771)

CAM UNIT FOR MULTIFEED KNITTING MACHINE. F. C. Wiesinger (to Wildman Jacquard Co.). USP 2 835 120, May 20, 1958. (2772)

Cam unit which may be used for several sizes of machines and which may be attached or detached without disturbing any other parts.

CIRCULAR HOSIERY MACHINE YARN CARRIER. K. E. Hoefer. USP 2 836 042, May 27, 1958. (2773)

Carrier consisting of an arm removably supporting a thread guiding tube.

FABRICS C 4

GLASS FABRICS. E. P. Goodall and D. J. Hodgson (to Wm. Mackintosh & Co. Ltd). BP 740 216, Feb. 5, 1958. Through BCIRA 38: 147 (1958). (2774)

Glass fiber fabric for reinforcing plastics is woven from untwisted rovings of continuous glass filaments, fed to the loom direct from a creel, and widely spaced wefts of relatively fine yarns or rovings.

SYNTHETIC FIBER PAPER. M. Noberasco (Italy). BP 787 769, Dec. 18, 1957. Through BCIRA 38: 90 (1958). (2775)

Fabric woven from polyamide yarns is hot calendered to seal the yarns together at crossing points and then coated on both sides with a synthetic resin or cellulose derivative. The material is intended for banknotes and related documents. A mark resembling a water-mark may be obtained by using an engraved calender.

TUFTING MACHINE LOOP GUARD. J. B. Harrison. USP 2 836 134, May 27, 1958. (2776)

Means for preventing interference between formed loops and the needles.

FABRICS HAVING SHADED PATTERNS. E. L. H. de Wambrechies. BP 787 913, Dec. 18, 1957. Through BCIRA 38: 90 (1958). (2777)

Fancy fabrics are made by using in the weave: (1) unbleached wool yarns or other animal or artificial fiber yarns having the dyeing affinities of wool, and (2) yarns of the same kind that have been dyed a fast neutral gray, and then dyeing the fabric. Different shaded patterns result according to the composition of the dye bath.

BANDAGES OR SANITARY NAPKINS. NV Papierfabriek Gennep. BP 787 949, Dec. 18, 1957. Through BCIRA 38: 90 (1958). (2778)

A body of paper is wrapped in a fabric of which the warps are chains of knitted stitches and the wefts are singles yarns passing through loops in the warps.

THIERON HEAT RESISTANT FABRICS. A. N. de Thier. BP 788 291 and 788 292, Dec. 23, 1957. Through BCIRA 38: 120 (1958). (2779)

These inventions relate to the production of yarns and fabrics that give an infrared reflectance approximating to that of white when measured by infrared photography. In the first, fibers in the primary colors of the solar spectrum are blended and spun. In the second, extrusions from solutions colored in 3 colors are combined in the required proportion and then spun in the usual way. For fabric production, any known type of weave may be used. See also abstr. 1270/57.

LAMINATED INSULATING MATERIALS. Robert Bosch GmbH. BP 788 793, Jan. 8, 1958. Through BCIRA 38: 120 (1958). (2780)

Two glass fiber fabrics having a relatively rough surface and a relatively smooth surface are impregnated with a thermosetting resin and pressed together, rough surfaces face to face. A useful fabric is a 3 x 1 twill with fine warps of long fibers and coarse, loose weft of short fibers.

SEAT WEBBING. P. Valdelievre (France). BP 789 337, Jan. 22, 1958. Through BCIRA 38: 148 (1958). (2781)

Webbing for seats that combines the tensile strength of a jute strap with elasticity of a rubber strap is woven from cotton-covered rubber warp and jute weft.

DOUBLE JACKETED FIRE HOSE. P. H. Penman (to H. K. Porter Co.). USP 2 833 313, May 6, 1958. (2782)

The outer jacket of a double jacketed fire hose has longitudinal zones of high abrasion resistance made up of polyester high twist multiple ply warp yarns interwoven with low twist single ply polyester weft yarns.

NONWOVEN TISSUE-FACED COTTON SQUARES. R. L. Atkinson (to Personal Prods. Corp.). USP 2 834 703, May 13, 1958. (2783)

Composite nonwoven fabrics for use as medical applicators, toweling, or for cosmetic purposes produced by nonadhesively uniting a relatively heavy layer of a nonwoven cotton fiber web to a flexible backing of paper tissue along narrow compression lines.

MANUFACTURE OF PILE CARPETS. H. F. Jamrogowicz (to Bigelow-Sanford Carpet Co.). USP 2 834 806 and 2 834 807, May 13, 1958. (2784)

Hook bar for forming loops from pile warps on an Axminster type loom having a needle mechanism arranged for inserting the wefts in pairs to produce pile loops of individually graded heights.

REINFORCED FELT FABRIC. B. E. Doe (to Felters Co.). USP 2 835 020, May 20, 1958. (2785)

Soft, lightweight apparel felt resistant to stretch is obtained by embedding a coarse mesh warp knit fabric of small denier continuous filament stabilized with a synthetic resin between batts of felting fiber.

WOVEN ANTISLIP OR FRICTION FABRICS. H. Horowitz. USP 2 835 279, May 20, 1958. (2786)

Method of weaving an antislip fabric on a standard width loom by weaving strips of rubber warp-wise over the regular warp so that they are parallel to each other and flat against the woven base fabric.

HEAT SEALING LAUNDRY TAPE. P. N. Braun and G. I. Hermanson (to Philip N. Braun Inc.). USP 2 835 621, May 20, 1958. (2787)

Composite tape consisting of a top printing layer made of a high wet strength cellulose fiber web joined by a thermoplastic film to a web of abaca fibers interlocked by regenerated viscose and having its other surface laminated to a second thermoplastic film for the purpose of bonding to cloth.

STRETCHABLE PLASTIC COATED FABRIC. K. O. Berry. USP 2 836 509, May 27, 1958. (2788)

Fabric woven from cellulosic yarn is coated on one side with plasticized polyvinyl chloride, heated, and subjected to hot moisture and dried while free of longitudinal tension.

REINFORCED PLASTIC. H. H. Morris. USP 2 836 529, May 27, 1958. (2789)

Plastics approaching steel for stiffness and flexibility and suitable for automobile bodies are obtained by embedding interwoven glass fibers and metal wires in a polymerized thermosetting resin.

FINISHING AND CHEMICAL PROCESSING D

CHEMICAL PROCESSES D 1

IMPROVING THE WATER ABSORPTION OF POLYAMIDE FIBERS. Farbenfabriken Bayer AG. BP 788 688, Jan. 8, 1958. Through BCIRA 38: 125 (1958). (2790)

Polyamide materials are treated with a colloidal solution or emulsion of a synthetic N-methoxymethyl polyamide and a polyester such as glycol succinate, followed by heating at 105° C.

FLAMEPROOFING FIBROUS MATERIALS. C. A. Redfarn and H. Coates (to Albright & Wilson Ltd). BP 788 785, Jan. 8, 1958. Through BCIRA 38: 125 (1958). (2791)

The agents used are obtained from polymeric phosphochloronitride by hydrolysis, amination, hydrazination, or other reaction that replaces Cl by an active group and then treating the product, alone, or with another portion of the phosphochloronitride, or with a known cross-linking agent, so as to form bridges between the polymer chains.

AUTOMOBILE OR BOAT COVER. Deutsche Gold & Silber Scheideanstalt. BP 788 786, Jan. 8, 1958. Through BCIRA 38: 125 (1958). (2792)

Woven fabric or net is coated outside with plasticized polyvinyl chloride and inside with a thinner layer of rubber latex.

APPARATUS FOR WET PROCESSING OF WEB MATERIAL. J. A. Bungay (to Hall Harding Ltd). BP 788 939, Jan. 8, 1958. Through BCIRA 38: 125 (1958). (2793)

The material (paper or textile) is fed to a first, independently driven roller and the liquid is applied to a second driven roller that is so close to the first that the liquid passes to this by capillary attraction.

APPARATUS FOR THE CONTINUOUS WET TREATMENT OF FABRIC WEBS. W. W. Arnold (to Wiesner-Rapp Co.). BP 789 996, Jan. 29, 1958. Through BCIRA 38: 156 (1958). (2794)

ROTPROOFING PROCESS. Badische Anilin & Soda Fabrik AG. BP 789 998, Jan. 29, 1958. Through BCIRA 38: 156 (1958). (2795)

Yarns and fabrics are impregnated with a dispersion of an acrylic or vinylic polymer containing as dispersing and bactericidal agent a quaternary ammonium derivative of an N-heterocyclic compound, e.g. fully methylated octadecylhexamethylene-imine.

INHIBITING CORROSION CAUSED BY CHLORINE DIOXIDE IN BLEACHING APPARATUS. Farbwerke Hoechst AG. BP 790 302, Feb. 5, 1958. Through BCIRA 38: 154 (1958). (2796)

In a process in which chlorine dioxide might occur in the vapor phase and cause corrosion of stainless steel in the apparatus, e.g. the chlorite bleaching of cotton and viscose rayon fabrics, this damage is avoided by ensuring that nitric acid and a lower fatty acid are also present in the vapor.

MILDEWPROOFING CELLULOSE FIBERS. P. W. Kersnar. USP 2 833 614, May 6, 1958. (2797)

A series of reactions for producing cellulose fibers or fabrics permanently resistant to microbiological attack consists essentially of: (1) impregnation with aqueous alkali; (2) reaction with epoxide to form hydroxyl ether groups; (3) esterification with an aromatic sulfonyl chloride; and (4) heating with a tertiary amine to form the cellulose quaternary ammonium sulfonate. These steps may be amalgamated into a continuous process.

AFTERTREATMENT OF RESIN FINISHED FABRICS TO PREVENT FORMALDEHYDE LIBERATION. P. B. Roth (to Am. Cyanamid Co.). USP 2 833 670, May 6, 1958. (2798)

The fabric is treated with a nitrogenous compound, capable of reacting with formaldehyde to form a condensation product, in an amount sufficient to reduce the amount of formaldehyde liberated when the fabric is stored 20 hr at 100° F and 100% rh to 0.3% or less based on the fabric weight.

SHRINKPROOFING AND CREASEPROOFING COMPOSITIONS FOR CELLULOSE TEXTILES. M. D. Hurwitz (to Rohm & Haas Co.). USP 2 833 674, May 6, 1958. (2799)

Cellulose fabrics are rendered resistant to crushing and to shrinkage on laundering by impregnation with a mixture of a polymethylol derivative of an N,N-disubstituted melamine and a condensate of formaldehyde with melamine, urea, N,N'-ethyleneurea, or N,N'-trimethyleneurea.

ORGANOSILOXANE WATERPROOFING MIXTURE. S. Nitzsche and E. Pirson (to Wacker Chemie GmbH). USP 2 833 735, May 6, 1958. (2800)

A waterproofing composition which is durable, does not affect the hand of the fabric, and eliminates the need for high curing temperatures consists of a mixture of an organopolysiloxane oil, an organopolysiloxane resin, and a complex titanium or zirconium curing catalyst. After brief heating at 90 to 110° C, the silicone is firmly anchored to the fabric and the water repellent properties are only slightly affected by repeated washing or drycleaning.

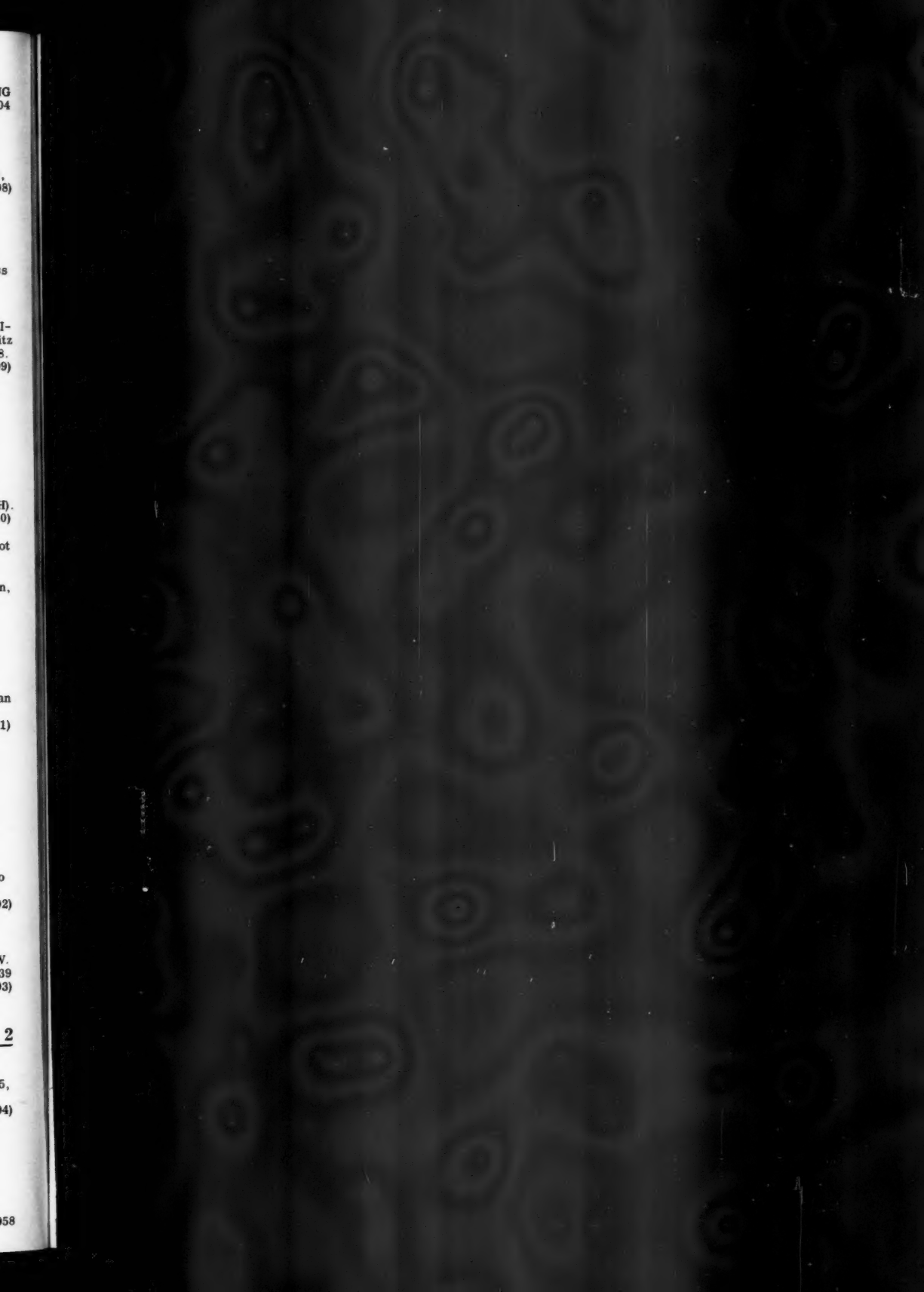
SOLVENT WOOL SCOURING PROCESS. D. P. Norman (to Pacific Mills). USP 2 833 798, May 6, 1958. (2801)

Suint and wool grease are removed from raw wool by bleaching the raw wool with a mixture of methylene chloride and water or methyl alcohol, separating the liquid extract from the wool fibers, washing the extract with water, and separating the aqueous phase containing suint from the nonaqueous phase containing wool grease.

APPARATUS FOR COATING GLASS FIBERS WITH MOLTEN METAL. G. Slayter and G. de Piolenc (to Owens-Corning Fiberglas Corp.). USP 2 835 221, May 20, 1958. (2802)

AQUEOUS EMULSIONS FOR DURABLE WATER REPELLENCY. G. Widmer, W. Fatzer, W. Geigy, W. Kraus, and A. Hiestand (to Ciba Ltd). USP 2 835 639 and 2 835 641, May 20, 1958. (2803)

DYEING AND PRINTING D 2

SQUEEGEE DEVICE FOR SCREEN PRINTING. J. T. Barnes (to Whitebirk Weaving Co. Ltd). BP 789 175, Jan. 15, 1958. Through BCIRA 38: 124 (1958). (2804)

A pair of interlinked squeegee blades is pivotally mounted on a carrier in such a way that they swing in parallel from one inclination to a reverse one as the direction of the carrier is reversed.